Appendix A:
Construction Health Risk & Greenhouse Gas Assessment

TAMIEN STATION TRANSIT-ORIENTED DEVELOPMENT REZONING PROJECT CONSTRUCTION HEALTH RISK & GREENHOUSE GAS ASSESSMENT

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Introduction

The purpose of this report is to address air quality impacts and compute greenhouse gas (GHG) emissions associated with the Tamien Transit-Oriented Development (TOD) residential project located at 1197 Lick Avenue in San José, CA. The air quality impacts and GHG emissions would be associated with demolition of the existing uses at the site, construction of the new buildings and infrastructure, and operation of the project. Air pollutant and GHG emissions associated with construction and operation of the project were predicted using models. In addition, the potential construction health risk impact to nearby sensitive receptors and the impact of existing toxic air contaminant (TAC) sources affecting the proposed residences were evaluated. This analysis addresses those issues following the guidance provided by the Bay Area Air Quality Management District (BAAQMD).

Project Description

The project proposes to demolish the existing on-site child care center and surface parking lot and construct three buildings (Affordable Housing, Market Rate Phase I, and Market Rate Phase II) to provide 569 residential units. The Affordable Housing residential building would contain 135 housing units. This building would also contain either commercial space or a child care center, up to 3,000 square feet in size. The two remaining buildings (Market Rate Phase I and Market Rate Phase II) would contain a total of 434 market rate residential units. Access to the project would be provided from two driveway entrances on Lick Avenue. Residential vehicular access would be facilitated on a new interior loop road, connecting from two driveway entrances on Lick Avenue.

Parking would be provided to future residents and VTA users in a ground floor and sub-grade garages associated with each building. The Affordable Housing building would provide a total of 175 spaces, with 17 spaces reserved for commercial/child care and VTA parking. The Market Rate Phase I building would provide a total of 295 spaces, with 78 spaces reserved for VTA parking. The Market Rate Phase II building would provide a total of 274 spaces, with 57 spaces reserved for VTA parking. The total parking to be provided in all buildings would be 744 spaces.

Construction of the residential buildings would be done in two phases with Phase I consisting of the Affordable Housing and Market Rate Phase I residential buildings and Phase II would include the construction of the Market Phase II buildings. Phase II construction is assumed to begin one year after the construction of Phase I. The Affordable Housing and Market Rate Phase I residential buildings would be occupied before the construction of Market Rate Phase II.

Setting

The project is located in Santa Clara County, which is in the San Francisco Bay Area Air Basin. Ambient air quality standards have been established at both the State and federal level. The Bay Area meets all ambient air quality standards with the exception of ground-level ozone, respirable particulate matter (PM_{10}), and fine particulate matter ($PM_{2.5}$).

Air Pollutants of Concern

High ozone levels are caused by the cumulative emissions of reactive organic gases (ROG) and nitrogen oxides (NO_X). These precursor pollutants react under certain meteorological conditions to form high ozone levels. Controlling the emissions of these precursor pollutants is the focus of the Bay Area's attempts to reduce ozone levels. The highest ozone levels in the Bay Area occur in the eastern and southern inland valleys that are downwind of air pollutant sources. High ozone levels aggravate respiratory and cardiovascular diseases, reduced lung function, and increase coughing and chest discomfort.

Particulate matter is another problematic air pollutant of the Bay Area. Particulate matter is assessed and measured in terms of respirable particulate matter or particles that have a diameter of 10 micrometers or less (PM_{10}) and fine particulate matter where particles have a diameter of 2.5 micrometers or less ($PM_{2.5}$). Elevated concentrations of PM_{10} and $PM_{2.5}$ are the result of both region-wide (or cumulative) emissions and localized emissions. High particulate matter levels aggravate respiratory and cardiovascular diseases, reduce lung function, increase mortality (e.g., lung cancer), and result in reduced lung function growth in children.

Toxic Air Contaminants

TACs are a broad class of compounds known to cause morbidity or mortality (usually because they cause cancer) and include, but are not limited to, the criteria air pollutants. TACs are found in ambient air, especially in urban areas, and are caused by industry, agriculture, fuel combustion, and commercial operations (e.g., dry cleaners). TACs are typically found in low concentrations, even near their source (e.g., diesel particulate matter [DPM] near a freeway). Because chronic exposure can result in adverse health effects, TACs are regulated at the regional, State, and federal level.

Diesel exhaust is the predominant TAC in urban air and is estimated to represent about three-quarters of the cancer risk from TACs (based on the Bay Area average). According to the California Air Resources Board (CARB), diesel exhaust is a complex mixture of gases, vapors, and fine particles. This complexity makes the evaluation of health effects of diesel exhaust a complex scientific issue. Some of the chemicals in diesel exhaust, such as benzene and formaldehyde, have been previously identified as TACs by the CARB, and are listed as carcinogens either under the State's Proposition 65 or under the Federal Hazardous Air Pollutants programs. The most recent Office of Environmental Health Hazard Assessment (OEHHA) risk assessment guidelines were published in February of 2015.[1] See *Attachment 1* for a detailed description of the community risk modeling methodology used in this assessment.

Regulatory Agencies

The BAAQMD is the regional agency tasked with managing air quality in the region. At the State level, the CARB (a part of the California Environmental Protection Agency [EPA]) oversees

[1] OEHHA, 2015. *Air Toxics Hot Spots Program Risk Assessment Guidelines, The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments.* Office of Environmental Health Hazard Assessment. February.

regional air district activities and regulates air quality at the State level. The BAAQMD has recently published California Environmental Quality Act (CEQA) Air Quality Guidelines that are used in this assessment to evaluate air quality impacts of projects.

Sensitive Receptors

There are groups of people more affected by air pollution than others. CARB has identified the following persons who are most likely to be affected by air pollution: children under 16, the elderly over 65, athletes, and people with cardiovascular and chronic respiratory diseases. These groups are classified as sensitive receptors. Locations that may contain a high concentration of these sensitive population groups include residential areas, hospitals, daycare facilities, elder care facilities, and elementary schools. For cancer risk assessments, children are the most sensitive receptors, since they are more susceptible to cancer causing TACs. Residential locations are assumed to include infants and small children. This project will introduce new residents to the area and a child care center, which are considered sensitive receptors. The closest offsite sensitive receptors to the project site are residents residing in townhomes across from the project site. Additional residences are located at farther distances in all directions from the project site.

Regulatory Setting

Federal Regulations

The United States Environmental Protection Agency (EPA) sets nationwide emission standards for mobile sources, which include on-road (highway) motor vehicles such trucks, buses, and automobiles, and non-road (off-road) vehicles and equipment used in construction, agricultural, industrial, and mining activities (such as bulldozers and loaders). The EPA also sets nationwide fuel standards. California also has the ability to set motor vehicle emission standards and standards for fuel used in California, as long as they are the same or more stringent than the federal standards.

The EPA has established a number of emission standards for on- and non-road heavy-duty diesel engines used in trucks and other equipment. This was done in part because diesel engines are a significant source of NO_X and particulate matter (PM_{10} and $PM_{2.5}$) and because the EPA has identified DPM as a probable carcinogen. Implementation of the heavy-duty diesel on-road vehicle standards and the non-road diesel engine standards are estimated to reduce particulate matter and NO_X emissions from diesel engines up to 95 percent in 2030 when the heavy-duty vehicle fleet is completely replaced with newer heavy-duty vehicles that comply with these emission standards.[2]

In concert with the diesel engine emission standards, the EPA has also substantially reduced the amount of sulfur allowed in diesel fuels. The sulfur contained in diesel fuel is a substantial contributor to the formation of particulate matter in diesel-fueled engine exhaust. The current standards reduced the amount of sulfur allowed by 97 percent for highway diesel fuel (from 500 parts per million by weight [ppmw] to 15 ppmw), and by 99 percent for off-highway diesel fuel (from about 3,000 ppmw to 15 ppmw). The low sulfur highway fuel (15 ppmw sulfur), also called ultra-low sulfur diesel (ULSD), is currently required for use by all vehicles in the U.S.

[2] USEPA, 2000. *Regulatory Announcement, Heavy-Duty Engine and Vehicle Standards and Highway Diesel Fuel Sulfur Control Requirements*. EPA420-F-00-057. December.

All of the above federal diesel engine and diesel fuel requirements have been adopted by California, in some cases with modifications making the requirements more stringent or the implementation dates sooner.

State Regulations

To address the issue of diesel emissions in the state, CARB developed the Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles.[3] In addition to requiring more stringent emission standards for new on-road and off-road mobile sources and stationary diesel-fueled engines to reduce particulate matter emissions by 90 percent, a significant component of the plan involves application of emission control strategies to existing diesel vehicles and equipment. Many of the measures of the Diesel Risk Reduction Plan have been approved and adopted, including the federal on-road and non-road diesel engine emission standards for new engines, as well as adoption of regulations for low sulfur fuel in California.

CARB has adopted and implemented a number of regulations for stationary and mobile sources to reduce emissions of DPM. Several of these regulatory programs affect medium and heavy duty diesel trucks that represent the bulk of DPM emissions from California highways. CARB regulations require on-road diesel trucks to be retrofitted with particulate matter controls or replaced to meet 2010 or later engine standards that have much lower DPM and $PM_{2.5}$ emissions. This regulation will substantially reduce these emissions between 2013 and 2023. While new trucks and buses will meet strict federal standards, this measure is intended to accelerate the rate at which the fleet either turns over so there are more cleaner vehicles on the road or is retrofitted to meet similar standards. With this regulation, older, more polluting trucks would be removed from the roads sooner.

CARB has also adopted and implemented regulations to reduce DPM and NO_X emissions from in-use (existing) and new off-road heavy-duty diesel vehicles (e.g., loaders, tractors, bulldozers, backhoes, off-highway trucks, etc.). The regulations apply to diesel-powered off-road vehicles with engines 25 horsepower (hp) or greater. The regulations are intended to reduce particulate matter and NO_X exhaust emissions by requiring owners to turn over their fleet (replace older equipment with newer equipment) or retrofit existing equipment in order to achieve specified fleet-averaged emission rates. Implementation of this regulation, in conjunction with stringent federal off-road equipment engine emission limits for new vehicles, will significantly reduce emissions of DPM and NO_X.

Bay Area Air Quality Management District (BAAQMD)

BAAQMD has jurisdiction over an approximately 5,600-square mile area, commonly referred to as the San Francisco Bay Area (Bay Area). The District's boundary encompasses the nine San Francisco Bay Area counties, including Alameda County, Contra Costa County, Marin County, San Francisco County, San Mateo County, Santa Clara County, Napa County, southwestern Solano County, and southern Sonoma County.

[3] California Air Resources Board, 2000. *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*. October.

BAAQMD is the lead agency in developing plans to address attainment and maintenance of the National Ambient Air Quality Standards and California Ambient Air Quality Standards. The District also has permit authority over most types of stationary equipment utilized for the proposed project. The BAAQMD is responsible for permitting and inspection of stationary sources; enforcement of regulations, including setting fees, levying fines, and enforcement actions; and ensuring that public nuisances are minimized.

The BAAQMD California Environmental Quality Act (*CEQA) Air Quality Guidelines*[4] were prepared to assist in the evaluation of air quality impacts of projects and plans proposed within the Bay Area. The guidelines provide recommended procedures for evaluating potential air impacts during the environmental review process consistent with CEQA requirements including thresholds of significance, mitigation measures, and background air quality information. They also include assessment methodologies for air toxics, odors, and greenhouse gas emissions.

San José Envision 2040 General Plan

The San José Envision 2040 General Plan includes goals, policies, and actions to reduce exposure of the City's sensitive population to exposure of air pollution and toxic air contaminants or TACs. The following goals, policies, and actions are applicable to the proposed project:

Applicable Goals – Toxic Air Contaminants

Goal MS-11 Minimize exposure of people to air pollution and toxic air contaminants such as ozone, carbon monoxide, lead, and particulate matter.

Applicable Policies – Toxic Air Contaminants

MS-11.1 Require completion of air quality modeling for sensitive land uses such as new residential developments that are located near sources of pollution such as freeways and industrial uses. Require new residential development projects and projects categorized as sensitive receptors to incorporate effective mitigation into project designs or be located an adequate distance from sources of toxic air contaminants (TACs) to avoid significant risks to health and safety.

MS-11.4 Encourage the installation of appropriate air filtration at existing schools, residences, and other sensitive receptor uses adversely affected by pollution sources.

MS-11.5 Encourage the use of pollution absorbing trees and vegetation in buffer areas between substantial sources of TACs and sensitive land uses.

Actions – Toxic Air Contaminants

MS-11.7 Consult with BAAQMD to identify stationary and mobile TAC sources and determine the need for and requirements of a health risk assessment for proposed developments.

[4] Bay Area Air Quality Management District, 2017. *CEQA Air Quality Guidelines*. May.

Significance Thresholds

In June 2010, BAAQMD adopted thresholds of significance to assist in the review of projects under CEQA and these significance thresholds were contained in the District's 2011 *CEQA Air Quality Guidelines*. These thresholds were designed to establish the level at which BAAQMD believed air pollution emissions would cause significant environmental impacts under CEQA. The thresholds were challenged through a series of court challenges and were mostly upheld. BAAQMD updated the *CEQA Air Quality Guidelines*.in 2017 to include the latest significance thresholds that were used in this analysis are summarized in Table 1. The City's 2040 General Plan includes a policy to reduce exposure of new sensitive receptors to hazardous pollutants (Guiding Policy 12.6-G-1). Therefore, the effect of existing air pollutant and TAC sources upon the project site was assessed.

Table 1. Air Quality Significance Thresholds

Criteria Air Pollutant	**Construction Thresholds**	
	Average Daily Emissions (lbs./day)	
ROG	54	
NO_x	54	
PM_{10}	82 (Exhaust)	
$PM_{2.5}$	54 (Exhaust)	
CO	Not Applicable	
Fugitive Dust	Construction Dust Ordinance or other Best Management Practices	
Health Risks and Hazards	**Single Sources Within 1,000-foot Zone of Influence**	**Combined Sources (Cumulative from all sources within 1,000-foot zone of influence)**
Excess Cancer Risk	>10.0 per one million	>100 per one million
Hazard Index	>1.0	>10.0
Incremental annual $PM_{2.5}$	>0.3 µg/m^3	>0.8 µg/m^3
Greenhouse Gas Emissions		
Land Use Projects – direct and indirect emissions		Compliance with a Qualified GHG Reduction Strategy OR 1,100 metric tons annually or 4.6 metric tons per capita (for 2020) and adjusted to 2.6 metric tons per capita (for 2030)*

Note: ROG = reactive organic gases, NOx = nitrogen oxides, PM_{10} = course particulate matter or particulates with an aerodynamic diameter of 10 micrometers (µm) or less, $PM_{2.5}$ = fine particulate matter or particulates with an aerodynamic diameter of 2.5µm or less. GHG = greenhouse gases.

*BAAQMD does not have a recommended post-2020 GHG threshold.

Impacts and Mitigation Measures

Impact 1: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable State or federal ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

The Bay Area is considered a non-attainment area for ground-level ozone and $PM_{2.5}$ under both the Federal Clean Air Act and the California Clean Air Act. The area is also considered non-attainment for PM_{10} under the California Clean Air Act, but not the federal act. The area has attained both State and federal ambient air quality standards for carbon monoxide. As part of an effort to attain and maintain ambient air quality standards for ozone and PM_{10}, the BAAQMD has established thresholds of significance for these air pollutants and their precursors. These thresholds are for ozone precursor pollutants (ROG and NO_X), PM_{10}, and $PM_{2.5}$ and apply to both construction period and operational period impacts.

The California Emissions Estimator Model (CalEEMod) Version 2016.3.2 was used to estimate emissions from construction and operation of the project assuming full build-out conditions. The project land use types and size, and anticipated construction schedule were input to CalEEMod. The model output from CalEEMod is included as *Attachment 2*.

Construction period emissions

CalEEMod provided construction annual emission estimates for both on-site and off-site construction activities. On-site activities are primarily made up of construction equipment emissions, while off-site activity includes worker, hauling, and vendor traffic. A construction build-out scenario, including equipment list and schedule, was based on CalEEMod default information for a project of this size. The proposed project land uses were input into CalEEMod in two modeling scenarios:

Phase I (Affordable Housing & Market Rate Phase I Residential Buildings)

- 135 dwelling units entered as "Apartment Mid Rise" for the Affordable Housing Residential Building
- 217 dwelling units entered as "Apartment Mid Rise" for the Market Rate Phase I Residential Building. It was assumed that the 434 dwelling units proposed for the Market Rate Phase I and Phase II residential buildings would be split evenly between the two buildings.
- 3,000-sf and 90 students entered as "Day-Care Center"
- 27,500 cubic yards (cy) of soil export for the grading phase

The CalEEMod default construction schedule assumes that Phase I construction would be occur over a period of approximately 15 months beginning in January 2019. Based on the CalEEMod default assumptions, there are an estimated 320 construction workdays for Phase I construction.

Phase II (Market Rate Phase II Residential Building)

- 217 dwelling units entered as "Apartment Mid Rise" for the Market Rate Phase I Residential Building.
- 274 spaces entered as "Enclosed Parking with Elevator"
- 13,000 square feet (sf) of building demolition
- 27,500-cy of soil export for the grading phase

The CalEEMod default construction schedule assumes that Phase II construction would occur over a period of approximately 14 months, beginning in January 2021. Based on the CalEEMod default assumptions, there are an estimated 308 construction workdays for Phase II construction.

Average daily emissions were computed for each building by dividing the total construction emissions by the number of construction days. Table 2 shows average daily construction emissions of ROG, NO_X, PM_{10} exhaust, and $PM_{2.5}$ exhaust during construction of the project. As indicated in Table 2, predicted the construction period emissions would not exceed the BAAQMD significance thresholds.

Table 2. Construction Period Emissions

Scenario	ROG	NOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust
PHASE I (2019-2020)				
Affordable Housing & Market Rate Phase I Residential Building Construction Emissions (tons)	3.1 tons	5.1 tons	0.2 tons	0.2 tons
Average daily emissions (pounds)[1]	**19.3 lbs./day**	**31.8 lbs./day**	**1.3 lbs./day**	**1.2 lbs./day**
BAAQMD Thresholds (pounds per day)	*54* lbs./day	*54* lbs./day	*82* lbs./day	*54* lbs./day
Exceed Threshold?	**No**	**No**	**No**	**No**
PHASE II (2021-2022)				
Market Rate Phase II Construction Emissions (tons)	1.9 tons	3.5 tons	0.1 tons	0.1 tons
Average daily emissions (pounds)[2]	**12.5 lbs./day**	**23.0 lbs./day**	**0.9 lbs./day**	**0.9 lbs./day**
BAAQMD Thresholds (pounds per day)	*54* lbs./day	*54* lbs./day	*82* lbs./day	*54* lbs./day
Exceed Threshold?	**No**	**No**	**No**	**No**

Notes: [1]Assumes 320 workdays. [2]Assumes 308 workdays

Additionally, construction activities, particularly during site preparation and grading, would temporarily generate fugitive dust in the form of PM_{10} and $PM_{2.5}$. Sources of fugitive dust would include disturbed soils at the construction site and trucks carrying uncovered loads of soils. Unless properly controlled, vehicles leaving the site would deposit mud on local streets, which could be an additional source of airborne dust after it dries. The BAAQMD CEQA Air Quality Guidelines consider these impacts to be *less-than-significant* if best management practices are implemented to reduce these emissions. *Mitigation Measure AQ-1 would implement BAAQMD-recommended best management practices*.

Mitigation Measure AQ-1: **Include basic measures to control dust and exhaust during construction.**

During any construction period ground disturbance, the applicant shall ensure that the project contractor implement measures to control dust and exhaust. Implementation of the measures recommended by BAAQMD and listed below would reduce the air quality impacts associated with grading and new construction to a less-than-significant level. The contractor shall implement the following best management practices that are required of all projects:

1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.

2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.

3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.

4. All vehicle speeds on unpaved roads shall be limited to 15 miles per hour (mph).

5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.

6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.

7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.

8. Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

<u>Effectiveness of Mitigation Measure AQ-1</u>

The measures included above would be consistent with BAAQMD-recommended basic control measures for reducing fugitive particulate matter that are contained in the BAAQMD CEQA Air Quality Guidelines.

Impact 2: Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

As discussed under Impact 1, the project would have emissions less than the BAAQMD thresholds. Therefore, the project would not contribute substantially to existing or projected violations of those standards. Carbon monoxide emissions from traffic generated by the project would be the pollutant of greatest concern at the local level. Congested intersections with a large volume of traffic have the greatest potential to cause high-localized concentrations of carbon monoxide. Air pollutant monitoring data indicate that carbon monoxide levels have been at healthy levels (i.e., below State and federal standards) in the Bay Area since the early 1990s. As a result, the region has been designated as attainment for the standard. The highest measured level over any 8-hour averaging period during the last 3 years in the Bay Area is less than 3.0 parts per million (ppm), compared to the ambient air quality standard of 9.0 ppm. Intersections affected by the project would have traffic volumes less than the BAAQMD screening criteria and, thus, would not cause a violation of an ambient air quality standard or have a considerable contribution to cumulative violations of these standards.[5] The project would not cause the violation of an air quality standard or worsen an existing violation of an air quality standard. This would be a *less-than-significant* impact.

Impact 3: Expose sensitive receptors to substantial pollutant concentrations?

Project impacts related to increased community risk can occur either by introducing a new sensitive receptor, such as a residential use, in proximity to an existing source of TACs or by introducing a new source of TACs with the potential to adversely affect existing sensitive receptors in the project vicinity. The project would introduce new residents that are sensitive receptors. In addition, temporary project construction activity would generate dust and equipment exhaust on a temporary basis that could affect nearby sensitive receptors. Community risk impacts are addressed by increased predicting lifetime cancer risk, the increase in annual $PM_{2.5}$ concentrations, and computing the Hazard Index (HI) for non-cancer health risks. The methodology for computing community risks impacts is contained in *Attachment 1*.

Construction Community Health Risk Impacts

Project Construction Activity

Construction equipment and associated heavy-duty truck traffic generates diesel exhaust, which is a known TAC. These exhaust air pollutant emissions would not be considered to contribute substantially to existing or projected air quality violations. Construction exhaust emissions may still pose health risks for sensitive receptors such as surrounding residents. The primary community risk impact issues associated with construction emissions are cancer risk and exposure to $PM_{2.5}$. Diesel exhaust poses both a potential health and nuisance impact to nearby receptors. A health risk assessment of the project construction activities was conducted that evaluated potential health effects to nearby sensitive receptors from construction emissions of DPM and $PM_{2.5}$.[6] This

[5] For a land-use project type, the BAAQMD CEQA Air Quality Guidelines state that a proposed project would result in a less-than-significant impact to localized carbon monoxide concentrations if the project would not increase traffic at affected intersections with more than 44,000 vehicles per hour.

[6] DPM is identified by California as a toxic air contaminant due to the potential to cause cancer.

assessment included dispersion modeling to predict the off-site concentrations resulting from project construction, so that lifetime cancer risks and non-cancer health effects could be evaluated.

Construction Emissions

Construction period emissions were computed using CalEEMod along with projected construction activity, as described above. The CalEEMod model provided total annual $PM_{2.5}$ exhaust emissions (assumed to be DPM) for the off-road construction equipment used for construction of the project and for the exhaust emissions from on-road vehicles (haul trucks, vendor trucks, and worker vehicles). DPM emissions from Phase I were calculated as 0.2113 tons (423 pounds) over the 2019-2020 construction period and 0.1421 tons (284 pounds) from Phase II over the 2021-2022 construction period. A trip length of one mile was used to represent vehicle travel while at or near the construction sites. For modeling purposes, it was assumed that these emissions from on-road vehicles would occur at the construction sites. Fugitive dust $PM_{2.5}$ emissions were also computed and included in this analysis. The model predicts 0.1884 tons (377 pounds) of fugitive $PM_{2.5}$ from the Phase I construction and 0.0457 tons (91 pounds) of fugitive $PM_{2.5}$ from Phase II construction.

Dispersion Modeling

The U.S. EPA AERMOD dispersion model was used to predict concentrations of DPM and $PM_{2.5}$ at sensitive receptors (residences and child care children) in the vicinity of the project construction area. The AERMOD dispersion model is a BAAQMD-recommended model for use in modeling analysis of these types of emission activities for CEQA projects.[7] For each of the construction sites modeled, the modeling utilized two area sources to represent the on-site construction emissions, one for exhaust emissions and one for fugitive dust emissions. To represent the construction equipment exhaust emissions, an emission release height of 6 meters (19.7 feet) was used for the area sources. The elevated source height reflects the height of the equipment exhaust pipes plus an additional distance for the height of the exhaust plume above the exhaust pipes to account for plume rise of the exhaust gases. For modeling fugitive $PM_{2.5}$ emissions, a near-ground level release height of 2 meters (6.6 feet) was used for the area sources. Emissions from the construction equipment and on-road vehicle travel were distributed throughout the modeled area sources. Construction emissions were modeled as occurring daily between 7 a.m. to 4 p.m., when the majority of construction activity would occur.

The modeling used a 5-year meteorological data set (2006-2010) from the San José Airport prepared for use with the AERMOD model by the BAAQMD. Annual DPM and $PM_{2.5}$ concentrations from construction activities during the 2019-2020 Phase I construction period and the 2021-2022 Phase II construction period were calculated using the model. DPM and $PM_{2.5}$ concentrations were calculated at nearby sensitive receptor locations. During Phase I, receptor heights of 1.5 meters (4.9 feet) and 4.5 meters (14.7 feet) were used to represent the breathing height of nearby offsite residences in nearby townhomes, apartments and single-family homes. During Phase II, the same offsite receptors and receptor heights used for Phase I modeling were used in addition to onsite receptors located within the Phase I residential areas using receptor heights of 5.2 meters (17.0 feet) and 8.2 (26.9 feet). These heights represent the breathing heights

[7] Bay Area Air Quality Management District (BAAQMD), 2012, *Recommended Methods for Screening and Modeling Local Risks and Hazards, Version 3.0.* May.

of onsite residences living in the Affordable Housing and Market Rate Phase I residential buildings.

The maximum-modeled annual DPM and $PM_{2.5}$ concentrations, which includes both the DPM and fugitive $PM_{2.5}$ concentrations, from construction activities during Phase I and Phase II were identified at nearby onsite and offsite sensitive receptors. Using the maximum annual modeled DPM concentration, the maximum increased cancer risk at the location of the maximally exposed individual (MEI) was calculated using BAAQMD recommended methods. The cancer risk calculations are based on applying the BAAQMD recommended age sensitivity factors to the TAC concentrations. Age-sensitivity factors reflect the greater sensitivity of infants and small children to cancer causing TACs. BAAQMD-recommended exposure parameters were used for the cancer risk calculations, as described in *Attachment 1*. Infant and adult exposures were assumed to occur at all residences through the entire construction period. Non-cancer health hazards and maximum $PM_{2.5}$ concentrations were also calculated and identified.

The maximum cancer risks and $PM_{2.5}$ impacts for the offsite receptors were located at townhomes (1.5 meters) across from the project site on Lick Avenue. The onsite residential project MEI was located on the southern portion of the Market Rate Phase I residential building on the podium level (5.2 meters).

Additionally, modeling was done to calculate the cancer risks, non-cancer health hazards, and maximum $PM_{2.5}$ associated with Phrase II construction on the proposed onsite child care center in the Affordable Housing residential building. A receptor height of 1 meter was used to represent the breathing height of children ages two to nine years old. Results of this assessment indicate that maximum increased child cancer risks without any mitigation or construction emissions control would be 2.4 in one million, maximum-modeled annual PM2.5 concentration would be 0.12 $\mu g/m^3$, and the maximum computed HI would be 0.02.

Figure 1 shows the locations where the maximum-modeled DPM and $PM_{2.5}$ concentrations occurred for both the offsite and onsite receptors. Table 3 (discussed below) summarizes the maximum cancer risks, $PM_{2.5}$ concentrations, and health hazard indexes for project related construction activities affecting the offsite and onsite residential MEIs, respectively. *Attachment 3* to this report includes the emission calculations used for the construction area source modeling and the cancer risk calculations.

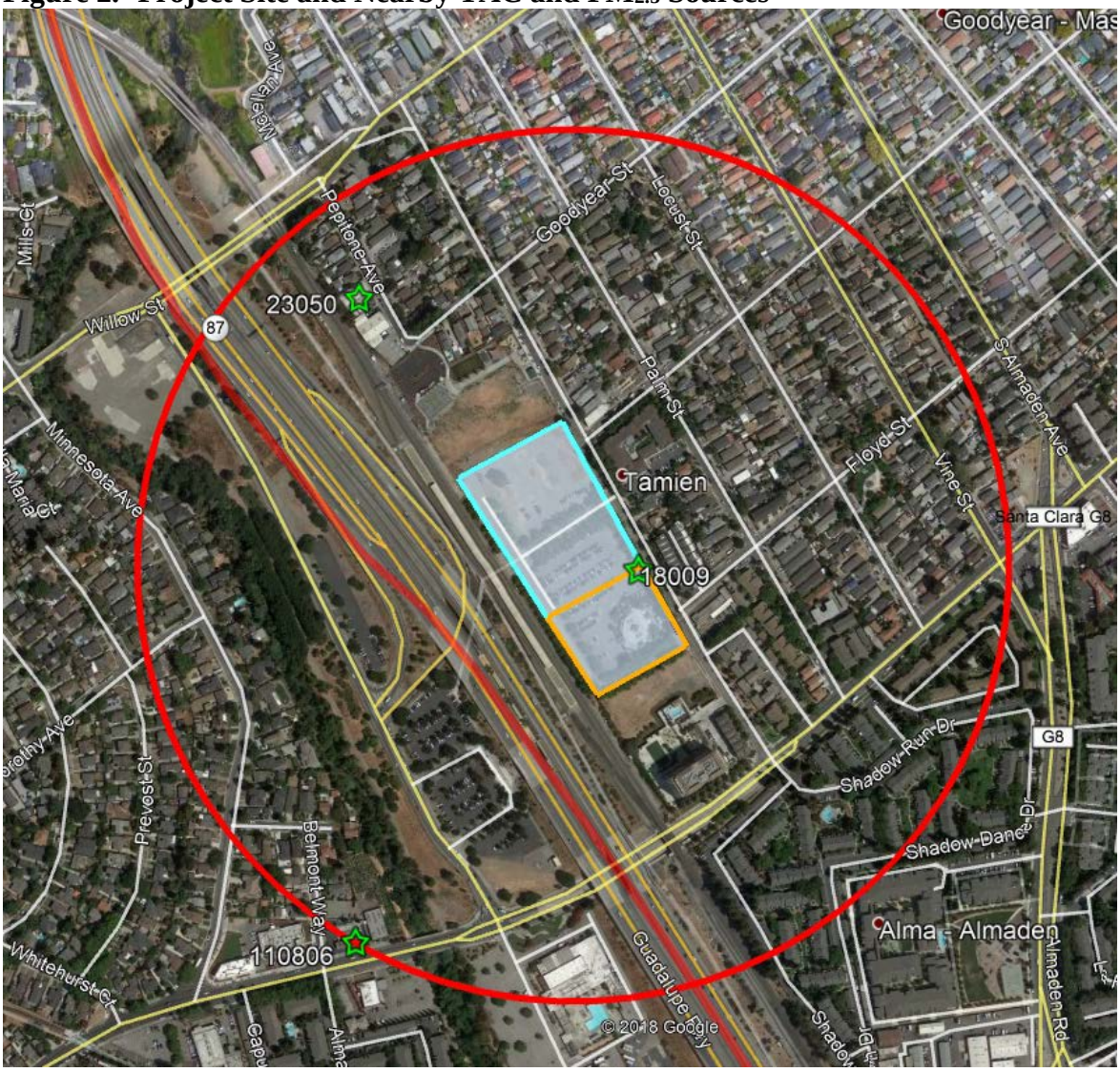
Results of this assessment indicate that the maximum excess residential cancer risks would exceed the BAAQMD significance threshold of 10 in one million and the maximum $PM_{2.5}$ concentrations would exceed the BAAQMD significance threshold of 0.3 $\mu g/m^3$ for both the offsite and onsite MEIs. *Implementation of Mitigation Measures AQ-2 would reduce this impact to a level of less-than-significant* as seen in Table 3.

Figure 1. Project Construction Sites, Locations of Onsite and Offsite Sensitive Receptors, and Locations of Maximum Cancer Risk and $PM_{2.5}$ Impacts

Cumulative Impact on Construction MEI

Cumulative community risk impacts were addressed through evaluation of TAC sources located within 1,000 feet of the off-site construction MEI. These sources include railroads, freeways or highways, busy surface streets, and stationary sources identified by BAAQMD. A review of the project area indicates that the project is adjacent to the Tamien Caltrain ail line. State Route 87, Lelong Street, and West Alma Avenue were also identified as busy roadways that are sources of TACs. Other nearby streets are assumed to have less than 10,000 vehicles per day. A review of BAAQMD's stationary source Google Earth map tool identified three stationary sources with the potential to affect the construction MEI. Figure 2 shows the sources affecting the project site and construction MEIs. Community risk impacts from these sources upon the construction MEIs (offsite and onsite) are reported in Table 3. Details of the modeling and community risk calculations are included in *Attachment 4.*

Figure 2. Project Site and Nearby TAC and $PM_{2.5}$ Sources



Railway: Caltrain Rail Line

The project site is located about 80 feet east of the Tamien Caltrain Station and about 50 feet from the closest rail line. The cancer risks, non-cancer health hazards, and maximum $PM_{2.5}$ associated with the railway were modeled in a 2016 report for this project.[8] These risks were modeled at the project site. The maximum increased cancer risk was computed as 13.7 in one million, the maximum $PM_{2.5}$ concentration was calculated as 0.03 $\mu g/m^3$, and the HI was 0.006. It is assumed that these risks would be less at the offsite construction MEI.

Highways – State Route 87

For the offsite MEI, the BAAQMD Google Earth *Highway Screening Analysis Tool* was used to identify screening level impacts from the State highway. The portion of the highway closest to the project was selected (i.e., Link 525, 6ft elevation). The lifetime cancer risk, annual $PM_{2.5}$ exposure and non-cancer hazard index corresponding to the distance between the construction MEIs and the highway was used. The cancer risk identified using the BAAQMD tool was adjusted using a factor of 1.3744 to account for new Office of Environmental Health Hazard Assessment (OEHHA) guidance. This factor was provided by BAAQMD for use with their CEQA screening tools that are used to predict cancer risk.[9]

For the onsite project MEI, the cancer risks, non-cancer health hazards, and maximum $PM_{2.5}$ modeled in the 2016 report were used. Details of the modeling and risk calculations are explained further in that report.[8] Risk values for both MEIs are listed in Table 3.

Local Roadways – Lelong Street and West Alma Avenue

For local roadways, BAAQMD has provided the *Roadway Screening Analysis Calculator* to assess whether roadways with traffic volumes of over 10,000 vehicles per day may have a potentially significant effect on a proposed project. Two adjustments were made to the cancer risk predictions made by this calculator: (1) adjustment for latest vehicle emissions rates predicted using EMFAC2014 and (2) adjustment of cancer risk to reflect new Office of Environmental Health Hazard Assessment (OEHHA) guidance (see *Attachment 1*).

The calculator uses EMFAC2011 emission rates for the year 2014. Overall, emission rates will decrease by the time the project is constructed and occupied. The project would not be occupied prior to at least 2018. In addition, a new version of the emissions factor model, EMFAC2014 is available. This version predicts lower emission rates. An adjustment factor of 0.5 was developed by comparing emission rates of total organic gases (TOG) for running exhaust and running losses developed using EMFAC2011 for year 2014 and those from EMFAC2014 for 2018.

The predicted cancer risk was then adjusted using a factor of 1.3744 to account for new OEHHA guidance. This factor was provided by BAAQMD for use with their CEQA screening tools that are used to predict cancer risk.

[8] Illingworth & Rodkin, Inc, *Tamien Station Transit-Oriented Development Rezoning Project TAC and GHG Emissions Assessment*. March 25, 2016.
[9] Correspondence with Alison Kirk, BAAQMD, November 23, 2015.

The two following roadways were identified as having over 10,000 vehicles per day: Lelong Street and West Alma Avenue. The average daily traffic (ADT) on Lelong Street was estimated to be 11,635 vehicles and the ADT on West Alma Avenue was estimated to be 11,810 vehicles. This estimate was based on the peak-hour traffic volumes included in the project's traffic analysis for background plus project conditions.[10] The AM and PM peak-hour volumes were averaged and then multiplied by 10 to estimate the ADT.

The BAAQMD *Roadway Screening Analysis Calculator* for Santa Clara County was used for both roadways. Lelong Street was identified as a north-west directional roadway with the construction MEIs east of the roadway. West Alma Avenue was identified as an east-west directional roadway with the construction MEIs north of roadway. Note that BAAQMD has found that non-cancer hazards from all local roadways would be well below the BAAQMD thresholds. Chronic or acute HI for the roadway would be below 0.03.

Stationary Sources

Permitted stationary sources of air pollution near the project site were identified using BAAQMD's *Stationary Source Risk & Hazard Analysis Tool*. This mapping tool uses Google Earth and identified the location of four stationary sources and their estimated risk and hazard impacts. A Stationary Source Information Form (SSIF) containing the identified sources was prepared and submitted to BAAQMD. They provided updated risk levels, emissions and adjustments to account for new OEHHA guidance[11]. The adjusted risk values were then adjusted with the appropriate distance multiplier values provided by BAAQMD or the emissions information was used in refined modeling.

Three sources were identified (Plant #18009, #23050, #110806) with one source being a gas dispensing facility, one source being a diesel generator, and one source being a spray booth in an auto body shop. Plant 18009 and Plant #110806, were adjusted using the BAAQMD's *Distance Adjustment Multiplier Tool for Diesel Internal Combustion Engines* or *Distance Adjustment Multiplier Tool for Gasoline Dispensing Facilities* when appropriate. Plant #23050 is a spray booth so it's risk values were not adjusted for distance.

Summary of Construction Health Risk Impacts

Table 3 report the project and cumulative community risk impacts for both offsite and onsite receptors. The project would have a *significant* impact with respect to community risk caused by project construction activities, since the maximum cancer risk is above the single-source thresholds of 10.0 per million for cancer risk and the maximum $PM_{2.5}$ concentrations would exceed the significance threshold of 0.3 $\mu g/m^3$ at both the offsite and onsite MEIs. The combined $PM_{2.5}$ concentrations for the onsite MEI would also exceed the cumulative source threshold of 0.8 $\mu g/m^3$. As shown in Table 3, the combined annual cancer risk, $PM_{2.5}$ concentrations and Hazard risk values, which includes unmitigated and mitigated, for the offsite and onsite construction MEI (except for the onsite cumulative $PM_{2.5}$ concentration) would not exceed the cumulative threshold.

[10] Correspondence with Caroline Weston, David J. Powers, October 22, 2018.
[11] Correspondence with Areana Flores, BAAQMD, October 19, 2018

Table 3. Impacts from Combined Sources at Construction MEIs

Source		Maximum Cancer Risk (per million)	$PM_{2.5}$ concentration ($\mu g/m^3$)	Hazard Index
Impacts for Offsite Construction MEI				
Project Construction	Unmitigated Mitigated	**43.7** (infant) 6.3 (infant)	**0.47** 0.19	0.05 0.01
BAAQMD Single-Source Threshold		***>10.0***	***>0.3***	***>1.0***
Significant?	Unmitigated Mitigated	***Yes*** *No*	***Yes*** *No*	*No* *No*
Caltrain at Tamien Station		<13.7	<0.03	<0.01
State Route 87 - Link 525 (6ft elevation) at 500 feet		12.7	0.13	0.01
Lelong Street at 1,000 feet, ADT 11,635		0.4	0.02	<0.03
West Alma Avenue at 680 feet, ADT 11,810		0.8	0.02	<0.03
Plant #18009 (Generator) at 90 feet		1.4	<0.01	<0.01
Plant #110806 (Gas Station) at 1,000 feet		0.7	-	<0.01
Plant #23050 (Auto Body Spray Booth)		-	-	<0.01
Combined Sources	*Unmitigated* *Mitigated*	<73.4 (infant) <36.0 (infant)	<0.66 <0.38	0.16 0.12
BAAQMD Cumulative Source Threshold		***>100***	***>0.8***	***>10.0***
Significant?	Unmitigated Mitigated	*No* *No*	*No* *No*	*No* *No*
Impacts for Onsite Construction MEI				
Project Construction	Unmitigated Mitigated	**50.8** (infant) 6.9 (infant)	**0.41** 0.08	0.06 0.01
BAAQMD Single-Source Threshold		***>10.0***	***>0.3***	***>1.0***
Significant?	Unmitigated Mitigated	***Yes*** *No*	***Yes*** *No*	*No* *No*
Caltrain at Tamien Station		13.7	0.03	0.01
State Route 87 - Link 525 (20ft elevation) at 340 feet		7.7	0.45	<0.01
Lelong Street at 780 feet, ADT 11,635		0.6	0.02	<0.03
West Alma Avenue at 830 feet, ADT 11,810		0.7	0.02	<0.03
Plant #18009 (Generator) onsite		1.7	<0.01	<0.01
Plant #110806 (Gas Station) at 1,000 feet		0.7	-	<0.01
Plant #23050 (Auto Body Spray Booth)		-	-	<0.01
Combined Sources	*Unmitigated* *Mitigated*	75.9 (infant) 32.0 (infant)	**0.94** 0.61	0.17 0.12
BAAQMD Cumulative Source Threshold		***>100***	***>0.8***	***>10.0***
Significant?	Unmitigated Mitigated	*No* *No*	***Yes*** *No*	*No* *No*

Mitigation Measure AQ-2: **Selection of equipment during construction to minimize emissions. Such equipment selection would include the following:**

The project shall develop a plan demonstrating that the off-road equipment used on-site to construct the project would achieve a fleet-wide average 85-percent reduction in DPM exhaust emissions or greater. One feasible plan to achieve this reduction would include the following:

- All diesel-powered off-road equipment, larger than 25 horsepower, operating on the site for more than two days continuously shall, at a minimum, meet U.S. EPA particulate matter emissions standards for Tier 2 engines that include CARB-certified Level 3 Diesel Particulate Filters[12] or equivalent. The following equipment adjustments will also meet this requirement: Diesel-powered equipment with Tier 3 engines and CARD-certified Level 3 Diesel Particulate filers, or equipment that meets U.S. EPA particulate matter emissions standards for Tier 4 engines.

Effectiveness of Mitigation Measure AQ-2

With mitigation, the computed maximum increased lifetime offsite residential cancer risk from construction, assuming infant exposure, would be 6.3 in one million or less, the maximum annual $PM_{2.5}$ concentration would be 0.19 $\mu g/m^3$, and the Hazard Index would be 0.01. For onsite residents, the computed maximum increased lifetime offsite residential cancer risk from construction, assuming infant exposure, would be 6.6 in one million or less, the maximum annual $PM_{2.5}$ concentration would be 0.0.08 $\mu g/m^3$, and the Hazard Index would be 0.01. As a result, impacts would be reduced to *less than significant* with respect to community risk caused by construction activities.

[12] See http://www.arb.ca.gov/diesel/verdev/vt/cvt.htm

Greenhouse Gases

Setting

Gases that trap heat in the atmosphere, GHGs, regulate the earth's temperature. This phenomenon, known as the greenhouse effect, is responsible for maintaining a habitable climate. The most common GHGs are carbon dioxide (CO_2) and water vapor but there are also several others, most importantly methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). These are released into the earth's atmosphere through a variety of natural processes and human activities. Sources of GHGs are generally as follows:

- CO_2 and N_2O are byproducts of fossil fuel combustion.
- N_2O is associated with agricultural operations such as fertilization of crops.
- CH_4 is commonly created by off-gassing from agricultural practices (e.g., keeping livestock) and landfill operations.
- Chlorofluorocarbons (CFCs) were widely used as refrigerants, propellants, and cleaning solvents but their production has been stopped by international treaty.
- HFCs are now used as a substitute for CFCs in refrigeration and cooling.
- PFCs and sulfur hexafluoride emissions are commonly created by industries such as aluminum production and semi-conductor manufacturing.

Each GHG has its own potency and effect upon the earth's energy balance. This is expressed in terms of a global warming potential (GWP), with CO_2 being assigned a value of 1 and sulfur hexafluoride being several orders of magnitude stronger. In GHG emission inventories, the weight of each gas is multiplied by its GWP and is measured in units of CO_2 equivalents (CO_2e).

An expanding body of scientific research supports the theory that global climate change is currently affecting changes in weather patterns, average sea level, ocean acidification, chemical reaction rates, and precipitation rates, and that it will increasingly do so in the future. The climate and several naturally occurring resources within California are adversely affected by the global warming trend. Increased precipitation and sea level rise will increase coastal flooding, saltwater intrusion, and degradation of wetlands. Mass migration and/or loss of plant and animal species could also occur. Potential effects of global climate change that could adversely affect human health include more extreme heat waves and heat-related stress; an increase in climate-sensitive diseases; more frequent and intense natural disasters such as flooding, hurricanes and drought; and increased levels of air pollution.

Recent Regulatory Actions

Assembly Bill 32 (AB 32), California Global Warming Solutions Act (2006)

AB 32, the Global Warming Solutions Act of 2006, codified the State's GHG emissions target by directing CARB to reduce the State's global warming emissions to 1990 levels by 2020. AB 32 was signed and passed into law by Governor Schwarzenegger on September 27, 2006. Since that time, the CARB, CEC, California Public Utilities Commission (CPUC), and Building Standards

Commission have all been developing regulations that will help meet the goals of AB 32 and Executive Order S-3-05.

A Scoping Plan for AB 32 was adopted by CARB in December 2008. It contains the State's main strategies to reduce GHGs from business-as-usual emissions projected in 2020 back down to 1990 levels. Business-as-usual (BAU) is the projected emissions in 2020, including increases in emissions caused by growth, without any GHG reduction measures. The Scoping Plan has a range of GHG reduction actions, including direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, and market-based mechanisms such as a cap-and-trade system.

Senate Bill 375, California's Regional Transportation and Land Use Planning Efforts (2008)

California enacted legislation (SB 375) to expand the efforts of AB 32 by controlling indirect GHG emissions caused by urban sprawl. SB 375 provides incentives for local governments and applicants to implement new conscientiously planned growth patterns. This includes incentives for creating attractive, walkable, and sustainable communities and revitalizing existing communities. The legislation also allows applicants to bypass certain environmental reviews under CEQA if they build projects consistent with the new sustainable community strategies. Development of more alternative transportation options that would reduce vehicle trips and miles traveled, along with traffic congestion, would be encouraged. SB 375 enhances CARB's ability to reach the AB 32 goals by directing the agency in developing regional GHG emission reduction targets to be achieved from the transportation sector for 2020 and 2035. CARB works with the metropolitan planning organizations (e.g. Association of Bay Area Governments [ABAG] and Metropolitan Transportation Commission [MTC]) to align their regional transportation, housing, and land use plans to reduce vehicle miles traveled and demonstrate the region's ability to attain its GHG reduction targets. A similar process is used to reduce transportation emissions of ozone precursor pollutants in the Bay Area.

SB 350 Renewable Portfolio Standards

In September 2015, the California Legislature passed SB 350, which increases the states Renewables Portfolio Standard (RPS) for content of electrical generation from the 33 percent target for 2020 to a 50 percent renewables target by 2030.

Executive Order EO-B-30-15 (2015) and SB 32 GHG Reduction Targets

In April 2015, Governor Brown signed Executive Order which extended the goals of AB 32, setting a greenhouse gas emissions target at 40 percent of 1990 levels by 2030. On September 8, 2016, Governor Brown signed SB 32, which legislatively established the GHG reduction target of 40 percent of 1990 levels by 2030. In November 2017, CARB issued *California's 2017 Climate Change Scoping Plan*. While the State is on track to exceed the AB 32 scoping plan 2020 targets, this plan is an update to reflect the enacted SB 32 reduction target.

The new Scoping Plan establishes a strategy that will reduce GHG emissions in California to meet the 2030 target (note that the AB 32 Scoping Plan only addressed 2020 targets and a long-term

goal). Key features of this plan are:

- Cap and Trade program places a firm limit on 80 percent of the State's emissions;
- Achieving a 50-percent Renewable Portfolio Standard by 2030 (currently at about 29 percent statewide);
- Increase energy efficiency in existing buildings (note that new
- Develop fuels with an 18-percent reduction in carbon intensity;
- Develop more high-density, transit oriented housing;
- Develop walkable and bikeable communities
- Greatly increase the number of electric vehicles on the road and reduce oil demand in half;
- Increase zero-emissions transit so that 100 percent of new buses are zero emissions;
- Reduce freight-related emissions by transitioning to zero emissions where feasible and near-zero emissions with renewable fuels everywhere else; and
- Reduce "super pollutants" by reducing methane and hydrofluorocarbons or HFCs by 40 percent.

In the updated Scoping Plan, CARB recommends statewide targets of no more than 6 metric tons CO_2e per capita (statewide) by 2030 and no more than 2 metric tons CO_2e per capita by 2050. The statewide per capita targets account for all emissions sectors in the State, statewide population forecasts, and the statewide reductions necessary to achieve the 2030 statewide target under SB 32 and the longer-term State emissions reduction goal of 80 percent below 1990 levels by 2050.

Significance Thresholds

The BAAQMD's CEQA Air Quality Guidelines recommended a GHG threshold of 1,100 metric tons or 4.6 metric tons (MT) per capita. These thresholds were developed based on meeting the 2020 GHG targets set in the scoping plan that addressed AB 32. Development of the project would occur in 2020. Although BAAQMD has not published a quantified threshold for 2030 yet, this assessment uses a "Substantial Progress" efficiency metric of 2.6 MT CO_2e/year/service population and a bright-line threshold of 660 MT CO_{2e}/year based on the GHG reduction goals of EO B-30-15. The service population metric of 2.6 is calculated for 2030 based on the 1990 inventory and the projected 2030 statewide population and employment levels[13]. The 2030 bright-line threshold is a 40 percent reduction of the 2020 1,100 MT CO_{2e}/year threshold.

Impact 4: Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

GHG emissions associated with development of the proposed project would occur over the short-term from construction activities, consisting primarily of emissions from equipment exhaust and worker and vendor trips. There would also be long-term operational emissions associated with vehicular traffic within the project vicinity, energy and water usage, and solid waste disposal. Emissions for the proposed project are discussed below and were analyzed using the methodology recommended in the BAAQMD CEQA Air Quality Guidelines.

[13] Association of Environmental Professionals, 2016. *Beyond 2020 and Newhall: A Field Guide to New CEQA Greenhouse Gas Thresholds and Climate Action Plan Targets for California*. April.

CalEEMod Modeling

CalEEMod was used to predict GHG emissions from operation of the site assuming full build-out of the project. The project land use types and size and other project-specific information were input to the model, as described above. CalEEMod output is included in *Attachment 2*.

Land Uses

The project land uses were input to CalEEMod as described above for the construction period modeling.

Model Year

Emissions associated with vehicle travel depend on the year of analysis because emission control technology requirements are phased-in over time. Therefore, the earlier the year analyzed in the model, the higher the emission rates utilized by CalEEMod. The earliest Phase I of the project could possibly be constructed and begin operating would be 2021. The earliest Phase II could begin operating would be 2023. It is assumed the entire project site would be operational in 2023. Emissions associated with build-out later than 2023 would be lower.

Trip Generation Rates

CalEEMod allows the user to enter specific vehicle trip generation rates, which were input to the model using the daily trip generation rate provided in the project trip generation table. The Saturday and Sunday trip rates were assumed to be the weekday rate adjusted by multiplying the ratio of the CalEEMod default rates for Saturday and Sunday trips. The traffic analysis provided project trip generation values for the apartments and the child care center.[14] The weekday trip rate used for the apartments was 3.73; the rate included the *Location-Based Vehicle Mode* and *Project-Specific Trip* reduction. As a result, the Saturday trip rate was 3.58 and the Sunday trip rate was 3.29. The weekday trip rate used for the child care center was 4.09, which changed the Saturday trip rate to 0.36 and the Sunday trip rate to 0.35.

Energy

CalEEMod defaults for energy use were used, which include the 2016 Title 24 Building Standards. GHG emissions modeling includes those indirect emissions from electricity consumption. The electricity produced emission rate was modified in CalEEMod. CalEEMod has a default emission factor of 641.3 pounds of CO_2 per megawatt of electricity produced, which is based on PG&E's 2008 emissions rate. PG&E published 2015 emissions rates for 2009 through 2015, which showed the emission rate for delivered electricity had been reduced to 405 pounds CO_2 per megawatt of

[14] Correspondence with Caroline Weston, David J. Powers, October 22, 2018.

electricity delivered.[15] The projected GHG intensity factor for the year 2020 is 290 pounds of CO_2 per megawatt of electricity produced, which was input to the model.[16]

Other Inputs

Default model assumptions for emissions associated with solid waste generation use were applied to the project. Water/wastewater use were changed to 100% aerobic conditions to represent wastewater treatment plant conditions. All hearths were assumed to be gas-powered.

Existing Uses

The existing project land use was entered as 90 students for a "Day-Care Center".

Service Population Emissions

The project service population efficiency rate is based on the number of future residents. For this project, the number of future resident was estimated by multiplying the total number of units by the persons per household rate for San Jose found in the California Department of Finance Population and Housing Estimate report.[17] Using the 3.20 persons per household 2018 estimate for San Jose, the number of future residents is estimated to be 1,821.

Construction Emissions

GHG emissions associated with construction were computed to be 1,723 MT of CO_{2e} for the total construction during Phase I and Phase II. These are the emissions from on-site operation of construction equipment, vendor and hauling truck trips, and worker trips. Neither the City nor BAAQMD have an adopted threshold of significance for construction-related GHG emissions, though BAAQMD recommends quantifying emissions and disclosing that GHG emissions would occur during construction. BAAQMD also encourages the incorporation of best management practices to reduce GHG emissions during construction where feasible and applicable. Best management practices assumed to be incorporated into construction of the proposed project include but are not limited to: using local building materials of at least 10 percent and recycling or reusing at least 50 percent of construction waste or demolition materials.

Operational Emissions

The CalEEMod model, along with the project vehicle trip generation rates, was used to estimate daily emissions associated with operation of the fully-developed site under the proposed project. As shown in Table 4, annual net emissions resulting from operation of the proposed project are predicted to be 2,734 MT of CO_2e for the year 2023 and 2,443 MT of CO_{2e} for the year 2030.

[15] PG&E 2017. Climate Change. See http://www.pgecorp.com/corp_responsibility/reports/2017/en02_climate_change.html accessed March 13, 2018.
[16] PG&E. 2015. Greenhouse Gas Emission Factors: Guidance for PG&E Customers See: https://www.pge.com/includes/docs/pdfs/shared/environment/calculator/pge_ghg_emission_factor_info_sheet.pdf
[17] State of California, Department of Finance, *E-5 Population and Housing Estimates for Cities, Counties and the State — January 1, 2011-2018*. Sacramento, California, May 2018.

Additionally, the service population emissions for the project in 2023 would be 1.6 MT CO_{2e}/year/service population and it would be 1.4 MT CO_{2e}/year/service population in 2030. The 2030 emissions would exceed the 2030 "Substantial Progress" threshold of 660 MT of CO_{2e}/yr, but it would not exceed the Service Population Emissions Threshold of 2.6 in 2030. To be considered significant, the project must exceed both the GHG significance threshold in metric tons per year and the service population significance threshold. This project only exceeds the service population significance threshold. Therefore, the project would have a *less-than-significant* impact regarding GHG emissions.

Table 4. Annual Project GHG Emissions (CO_2e) in Metric Tons

Source Category	Existing Project Site in 2023	Proposed Project in 2023[1]	Existing Project Site in 2030	Proposed Project in 2030
Area	<1	30	1	30
Energy Consumption	8	812	8	812
Mobile	122	1,831	101	1,519
Solid Waste Generation	8	140	8	140
Water	1	61	1	61
Total (MT of CO_{2e})	140	2,874	119	2,562
Net Emissions		2,734		**2,443**
Significance Threshold				***660 MT CO_2e/yr***
Service Population Emissions (MT CO_{2e}/year/service population)		1.6		1.4
Significance Threshold				***2.6 in 2030***
Significant (Exceeds both thresholds)?				*No*

[1]Includes all three residential buildings

Supporting Documentation

Attachment 1 is the methodology used to compute community risk impacts, including the methods to compute lifetime cancer risk from exposure to project emissions.

Attachment 2 includes the CalEEMod outputs for project construction and operational GHG emissions.

Attachment 3 is the construction health risk assessment. AERMOD dispersion modeling files for this assessment are available upon request and would be provided in digital format.

Attachment 4 includes the screening community risk calculations from sources affecting the project and MEI.

Attachment 1: Health Risk Calculation Methodology

A health risk assessment (HRA) for exposure to Toxic Air Contaminates (TACs) requires the application of a risk characterization model to the results from the air dispersion model to estimate potential health risk at each sensitive receptor location. The State of California Office of Environmental Health Hazard Assessment (OEHHA) and California Air Resources Board (CARB) develop recommended methods for conducting health risk assessments. The most recent OEHHA risk assessment guidelines were published in February of 2015.[18] These guidelines incorporate substantial changes designed to provide for enhanced protection of children, as required by State law, compared to previous published risk assessment guidelines. CARB has provided additional guidance on implementing OEHHA's recommended methods.[19] This HRA used the recent 2015 OEHHA risk assessment guidelines and CARB guidance. The BAAQMD has adopted recommended procedures for applying the newest OEHHA guidelines as part of Regulation 2, Rule 5: New Source Review of Toxic Air Contaminants.[20] Exposure parameters from the OEHHA guidelines and the recent BAAQMD HRA Guidelines were used in this evaluation.

Cancer Risk

Potential increased cancer risk from inhalation of TACs are calculated based on the TAC concentration over the period of exposure, inhalation dose, the TAC cancer potency factor, and an age sensitivity factor to reflect the greater sensitivity of infants and children to cancer causing TACs. The inhalation dose depends on a person's breathing rate, exposure time and frequency of exposure, and the exposure duration. These parameters vary depending on the age, or age range, of the persons being exposed and whether the exposure is considered to occur at a residential location or other sensitive receptor location.

The current OEHHA guidance recommends that cancer risk be calculated by age groups to account for different breathing rates and sensitivity to TACs. Specifically, they recommend evaluating risks for the third trimester of pregnancy to age zero, ages zero to less than two (infant exposure), ages two to less than 16 (child exposure), and ages 16 to 70 (adult exposure). Age sensitivity factors (ASFs) associated with the different types of exposure are an ASF of 10 for the third trimester and infant exposures, an ASF of 3 for a child exposure, and an ASF of 1 for an adult exposure. Also associated with each exposure type are different breathing rates, expressed as liters per kilogram of body weight per day (L/kg-day). As recommended by the BAAQMD, 95th percentile breathing rates are used for the third trimester and infant exposures, and 80th percentile breathing rates for child and adult exposures. Additionally, CARB and the BAAQMD recommend the use of a residential exposure duration of 30 years for sources with long-term emissions (e.g., roadways).

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[18] OEHHA, 2015. *Air Toxics Hot Spots Program Risk Assessment Guidelines, The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments.* Office of Environmental Health Hazard Assessment. February.

[19] CARB, 2015. *Risk Management Guidance for Stationary Sources of Air Toxics*. July 23.

[20] BAAQMD, 2016. *BAAQMD Air Toxics NSR Program Health Risk Assessment (HRA) Guidelines*. December 2016.

Under previous OEHHA and BAAQMD HRA guidance, residential receptors are assumed to be at their home 24 hours a day, or 100 percent of the time. In the 2015 Risk Assessment Guidance, OEHHA includes adjustments to exposure duration to account for the fraction of time at home (FAH), which can be less than 100 percent of the time, based on updated population and activity statistics. The FAH factors are age-specific and are: 0.85 for third trimester of pregnancy to less than 2 years old, 0.72 for ages 2 to less than 16 years, and 0.73 for ages 16 to 70 years. Use of the FAH factors is allowed by the BAAQMD if there are no schools in the project vicinity that would have a cancer risk of one in a million or greater assuming 100 percent exposure (FAH = 1.0).

Functionally, cancer risk is calculated using the following parameters and formulas:

Cancer Risk (per million) = $CPF \times Inhalation\ Dose \times ASF \times ED/AT \times FAH \times 10^6$

Where:

CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = $C_{air} \times DBR \times A \times (EF/365) \times 10^{-6}$

Where:

C_{air} = concentration in air ($\mu g/m^3$)
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

The health risk parameters used in this evaluation are summarized as follows:

Parameter	*Exposure Type* →	Infant		Child		Adult
	Age Range →	3rd Trimester	0<2	2 < 9	2 < 16	16 - 30
DPM Cancer Potency Factor $(mg/kg\text{-}day)^{-1}$		1.10E+00	1.10E+00	1.10E+00	1.10E+00	1.10E+00
Daily Breathing Rate (L/kg-day)*		361	1,090	631	572	261
Inhalation Absorption Factor		1	1	1	1	1
Averaging Time (years)		70	70	70	70	70
Exposure Duration (years)		0.25	2	14	14	14
Exposure Frequency (days/year)		350	350	350	350	350
Age Sensitivity Factor		10	10	3	3	1
Fraction of Time at Home		0.85-1.0	0.85-1.0	0.72-1.0	0.72-1.0	0.73

* 95th percentile breathing rates for 3rd trimester and infants and 80th percentile for children and adults

Non-Cancer Hazards

Potential non-cancer health hazards from TAC exposure are expressed in terms of a hazard index (HI), which is the ratio of the TAC concentration to a reference exposure level (REL). OEHHA has defined acceptable concentration levels for contaminants that pose non-cancer health hazards. TAC concentrations below the REL are not expected to cause adverse health impacts, even for sensitive individuals. The total HI is calculated as the sum of the HIs for each TAC evaluated and the total HI is compared to the BAAQMD significance thresholds to determine whether a significant non-cancer health impact from a project would occur.

Typically, for residential projects located near roadways with substantial TAC emissions, the primary TAC of concern with non-cancer health effects is diesel particulate matter (DPM). For DPM, the chronic inhalation REL is 5 micrograms per cubic meter ($\mu g/m^3$).

Annual $PM_{2.5}$ Concentrations

While not a TAC, fine particulate matter ($PM_{2.5}$) has been identified by the BAAQMD as a pollutant with potential non-cancer health effects that should be included when evaluating potential community health impacts under the California Environmental Quality Act (CEQA). The thresholds of significance for $PM_{2.5}$ (project level and cumulative) are in terms of an increase in the annual average concentration. When considering $PM_{2.5}$ impacts, the contribution from all sources of $PM_{2.5}$ emissions should be included. For projects with potential impacts from nearby local roadways, the $PM_{2.5}$ impacts should include those from vehicle exhaust emissions, $PM_{2.5}$ generated from vehicle tire and brake wear, and fugitive emissions from re-suspended dust on the roads.

Attachment 2: CalEEMod Modeling Construction and Operational Outputs

15-084 Tamien Mixed Use, Phase 1 2018 AQ - Santa Clara County, Annual

15-084 Tamien Mixed Use, Phase 1 2018 AQ

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Day-Care Center	90.00	Student	0.00	3,000.00	0
Enclosed Parking with Elevator	470.00	Space	4.23	188,000.00	0
Apartments Mid Rise	135.00	Dwelling Unit	0.00	135,000.00	386
Apartments Mid Rise	217.00	Dwelling Unit	4.46	217,000.00	621

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2021
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E 2020 rate 290

Land Use - Affordable Housing: 135 units, 3000-sf of child care, 175 spaces, MR Phase 1: 217 units, 295 underground spaces, default acreage for parking

Construction Phase - Default Construction Schedule, 2019-2020, add trenching

Off-road Equipment - Default Construction Equipment

Demolition - assumed demolition of child care center would happen in Phase 2

Grading - Applicant: 55,000-cy of export during grading, half it per phase 27500-cy

Vehicle Trips - apt: 3.73, sat 3.58, sun 3.29 --> daycare: 4.09, sat 0.36, sun 0.35

Woodstoves - All gas (112.64)

Energy Use -

Water And Wastewater - 100% aerobic

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - Trenching phase default equipment

Table Name	Column Name	Default Value	New Value
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberGas	52.80	112.64
tblFireplaces	NumberWood	59.84	0.00
tblGrading	MaterialExported	0.00	27,500.00
tblLandUse	LandUseSquareFeet	5,087.06	3,000.00
tblLandUse	LotAcreage	0.12	0.00
tblLandUse	LotAcreage	3.55	0.00
tblLandUse	LotAcreage	5.71	4.46
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblVehicleTrips	ST_TR	6.39	3.58
tblVehicleTrips	ST_TR	0.39	0.36
tblVehicleTrips	SU_TR	5.86	3.29
tblVehicleTrips	SU_TR	0.37	0.35
tblVehicleTrips	WD_TR	6.65	3.73
tblVehicleTrips	WD_TR	4.38	4.09
tblWater	AerobicPercent	87.46	100.00

tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWoodstoves	WoodstoveWoodMass	582.40	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.5150	4.6689	3.6809	9.8900e-003	0.5172	0.1919	0.7091	0.1806	0.1798	0.3604	0.0000	904.3704	904.3704	0.1076	0.0000	907.0601
2020	2.5847	0.4239	0.4447	9.9000e-004	0.0360	0.0198	0.0558	9.6700e-003	0.0186	0.0282	0.0000	88.8804	88.8804	0.0135	0.0000	89.2178
Maximum	**2.5847**	**4.6689**	**3.6809**	**9.8900e-003**	**0.5172**	**0.1919**	**0.7091**	**0.1806**	**0.1798**	**0.3604**	**0.0000**	**904.3704**	**904.3704**	**0.1076**	**0.0000**	**907.0601**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					

2019	0.5150	4.6689	3.6809	9.8900e-003	0.5172	0.1919	0.7091	0.1806	0.1798	0.3604	0.0000	904.3700	904.3700	0.1076	0.0000	907.0597
2020	2.5847	0.4239	0.4447	9.9000e-004	0.0360	0.0198	0.0558	9.6700e-003	0.0186	0.0282	0.0000	88.8803	88.8803	0.0135	0.0000	89.2177
Maximum	**2.5847**	**4.6689**	**3.6809**	**9.8900e-003**	**0.5172**	**0.1919**	**0.7091**	**0.1806**	**0.1798**	**0.3604**	**0.0000**	**904.3700**	**904.3700**	**0.1076**	**0.0000**	**907.0597**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**1-1-2019**	**3-31-2019**	1.7844	1.7844
2	**4-1-2019**	**6-30-2019**	1.1193	1.1193
3	**7-1-2019**	**9-30-2019**	1.1316	1.1316
4	**10-1-2019**	**12-31-2019**	1.1446	1.1446
5	**1-1-2020**	**3-31-2020**	3.0155	3.0155
		Highest	3.0155	3.0155

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.7346	0.0546	2.6348	2.9000e-004		0.0164	0.0164		0.0164	0.0164	0.0000	32.4031	32.4031	4.7000e-003	5.2000e-004	32.6744
Energy	0.0167	0.1428	0.0619	9.1000e-004		0.0115	0.0115		0.0115	0.0115	0.0000	503.4338	503.4338	0.0370	0.0100	507.3464
Mobile	0.3776	1.5470	4.2534	0.0137	1.2213	0.0120	1.2332	0.3269	0.0112	0.3381	0.0000	1,257.3249	1,257.3249	0.0448	0.0000	1,258.4440
Waste						0.0000	0.0000		0.0000	0.0000	36.2034	0.0000	36.2034	2.1396	0.0000	89.6925
Water						0.0000	0.0000		0.0000	0.0000	8.1914	23.3942	31.5856	0.0305	0.0183	37.8016

Total	**2.1289**	**1.7444**	**6.9501**	**0.0149**	**1.2213**	**0.0399**	**1.2612**	**0.3269**	**0.0392**	**0.3661**	**44.3948**	**1,816.5561**	**1,860.9509**	**2.2565**	**0.0289**	**1,925.9588**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.7346	0.0546	2.6348	2.9000e-004		0.0164	0.0164		0.0164	0.0164	0.0000	32.4031	32.4031	4.7000e-003	5.2000e-004	32.6744
Energy	0.0167	0.1428	0.0619	9.1000e-004		0.0115	0.0115		0.0115	0.0115	0.0000	503.4338	503.4338	0.0370	0.0100	507.3464
Mobile	0.3776	1.5470	4.2534	0.0137	1.2213	0.0120	1.2332	0.3269	0.0112	0.3381	0.0000	1,257.3249	1,257.3249	0.0448	0.0000	1,258.4440
Waste						0.0000	0.0000		0.0000	0.0000	36.2034	0.0000	36.2034	2.1396	0.0000	89.6925
Water						0.0000	0.0000		0.0000	0.0000	8.1914	23.3942	31.5856	0.0305	0.0183	37.8016
Total	**2.1289**	**1.7444**	**6.9501**	**0.0149**	**1.2213**	**0.0399**	**1.2612**	**0.3269**	**0.0392**	**0.3661**	**44.3948**	**1,816.5561**	**1,860.9509**	**2.2565**	**0.0289**	**1,925.9588**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2019	1/28/2019	5	20	
2	Site Preparation	Site Preparation	1/29/2019	2/11/2019	5	10	
3	Grading	Grading	2/12/2019	3/11/2019	5	20	
4	Trenching	Trenching	2/12/2019	2/25/2019	5	10	
5	Building Construction	Building Construction	3/12/2019	1/27/2020	5	230	

6	Paving	Paving	1/28/2020	2/24/2020	5	20	
7	Architectural Coating	Architectural Coating	2/25/2020	3/23/2020	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 4.23

Residential Indoor: 712,800; Residential Outdoor: 237,600; Non-Residential Indoor: 4,500; Non-Residential Outdoor: 1,500; Striped

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48
Trenching	Excavators	1	8.00	158	0.38
Trenching	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	3,438.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	334.00	69.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	67.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Trenching	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0351	0.3578	0.2206	3.9000e-004		0.0180	0.0180		0.0167	0.0167	0.0000	34.6263	34.6263	9.6300e-003	0.0000	34.8672
Total	**0.0351**	**0.3578**	**0.2206**	**3.9000e-004**	**0.0000**	**0.0180**	**0.0180**	**0.0000**	**0.0167**	**0.0167**	**0.0000**	**34.6263**	**34.6263**	**9.6300e-003**	**0.0000**	**34.8672**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.4000e-004	4.1000e-004	4.1900e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0531	1.0531	3.0000e-005	0.0000	1.0538
Total	**5.4000e-004**	**4.1000e-004**	**4.1900e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**1.0531**	**1.0531**	**3.0000e-005**	**0.0000**	**1.0538**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0351	0.3578	0.2206	3.9000e-004		0.0180	0.0180		0.0167	0.0167	0.0000	34.6263	34.6263	9.6300e-003	0.0000	34.8671
Total	**0.0351**	**0.3578**	**0.2206**	**3.9000e-004**	**0.0000**	**0.0180**	**0.0180**	**0.0000**	**0.0167**	**0.0167**	**0.0000**	**34.6263**	**34.6263**	**9.6300e-003**	**0.0000**	**34.8671**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.4000e-004	4.1000e-004	4.1900e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0531	1.0531	3.0000e-005	0.0000	1.0538
Total	**5.4000e-004**	**4.1000e-004**	**4.1900e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**1.0531**	**1.0531**	**3.0000e-005**	**0.0000**	**1.0538**

3.3 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0217	0.2279	0.1103	1.9000e-004		0.0120	0.0120		0.0110	0.0110	0.0000	17.0843	17.0843	5.4100e-003	0.0000	17.2195
Total	**0.0217**	**0.2279**	**0.1103**	**1.9000e-004**	**0.0903**	**0.0120**	**0.1023**	**0.0497**	**0.0110**	**0.0607**	**0.0000**	**17.0843**	**17.0843**	**5.4100e-003**	**0.0000**	**17.2195**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.3000e-004	2.4000e-004	2.5100e-003	1.0000e-005	7.1000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6319	0.6319	2.0000e-005	0.0000	0.6323
Total	**3.3000e-004**	**2.4000e-004**	**2.5100e-003**	**1.0000e-005**	**7.1000e-004**	**0.0000**	**7.2000e-004**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.6319**	**0.6319**	**2.0000e-005**	**0.0000**	**0.6323**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0217	0.2279	0.1103	1.9000e-004		0.0120	0.0120		0.0110	0.0110	0.0000	17.0843	17.0843	5.4100e-003	0.0000	17.2195
Total	**0.0217**	**0.2279**	**0.1103**	**1.9000e-004**	**0.0903**	**0.0120**	**0.1023**	**0.0497**	**0.0110**	**0.0607**	**0.0000**	**17.0843**	**17.0843**	**5.4100e-003**	**0.0000**	**17.2195**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.3000e-004	2.4000e-004	2.5100e-003	1.0000e-005	7.1000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6319	0.6319	2.0000e-005	0.0000	0.6323
Total	**3.3000e-004**	**2.4000e-004**	**2.5100e-003**	**1.0000e-005**	**7.1000e-004**	**0.0000**	**7.2000e-004**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.6319**	**0.6319**	**2.0000e-005**	**0.0000**	**0.6323**

3.4 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Fugitive Dust					0.0671	0.0000	0.0671	0.0339	0.0000	0.0339	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0258	0.2835	0.1629	3.0000e-004		0.0140	0.0140		0.0129	0.0129	0.0000	26.6423	26.6423	8.4300e-003	0.0000	26.8530
Total	**0.0258**	**0.2835**	**0.1629**	**3.0000e-004**	**0.0671**	**0.0140**	**0.0811**	**0.0339**	**0.0129**	**0.0468**	**0.0000**	**26.6423**	**26.6423**	**8.4300e-003**	**0.0000**	**26.8530**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0156	0.5352	0.1057	1.3700e-003	0.0291	2.0500e-003	0.0312	8.0100e-003	1.9700e-003	9.9800e-003	0.0000	132.4738	132.4738	6.2100e-003	0.0000	132.6290
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.4000e-004	4.1000e-004	4.1900e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0531	1.0531	3.0000e-005	0.0000	1.0538
Total	**0.0162**	**0.5356**	**0.1099**	**1.3800e-003**	**0.0303**	**2.0600e-003**	**0.0324**	**8.3300e-003**	**1.9800e-003**	**0.0103**	**0.0000**	**133.5270**	**133.5270**	**6.2400e-003**	**0.0000**	**133.6829**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0671	0.0000	0.0671	0.0339	0.0000	0.0339	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0258	0.2835	0.1629	3.0000e-004		0.0140	0.0140		0.0129	0.0129	0.0000	26.6422	26.6422	8.4300e-003	0.0000	26.8530

Total	**0.0258**	**0.2835**	**0.1629**	**3.0000e-004**	**0.0671**	**0.0140**	**0.0811**	**0.0339**	**0.0129**	**0.0468**	**0.0000**	**26.6422**	**26.6422**	**8.4300e-003**	**0.0000**	**26.8530**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0156	0.5352	0.1057	1.3700e-003	0.0291	2.0500e-003	0.0312	8.0100e-003	1.9700e-003	9.9800e-003	0.0000	132.4738	132.4738	6.2100e-003	0.0000	132.6290
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.4000e-004	4.1000e-004	4.1900e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0531	1.0531	3.0000e-005	0.0000	1.0538
Total	**0.0162**	**0.5356**	**0.1099**	**1.3800e-003**	**0.0303**	**2.0600e-003**	**0.0324**	**8.3300e-003**	**1.9800e-003**	**0.0103**	**0.0000**	**133.5270**	**133.5270**	**6.2400e-003**	**0.0000**	**133.6829**

3.5 Trenching - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.4700e-003	0.0251	0.0278	4.0000e-005		1.4300e-003	1.4300e-003		1.3100e-003	1.3100e-003	0.0000	3.7134	3.7134	1.1700e-003	0.0000	3.7428
Total	**2.4700e-003**	**0.0251**	**0.0278**	**4.0000e-005**		**1.4300e-003**	**1.4300e-003**		**1.3100e-003**	**1.3100e-003**	**0.0000**	**3.7134**	**3.7134**	**1.1700e-003**	**0.0000**	**3.7428**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.0000e-005	7.0000e-005	7.0000e-004	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1755	0.1755	0.0000	0.0000	0.1756
Total	**9.0000e-005**	**7.0000e-005**	**7.0000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**2.0000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.1755**	**0.1755**	**0.0000**	**0.0000**	**0.1756**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.4700e-003	0.0251	0.0278	4.0000e-005		1.4300e-003	1.4300e-003		1.3100e-003	1.3100e-003	0.0000	3.7134	3.7134	1.1700e-003	0.0000	3.7428
Total	**2.4700e-003**	**0.0251**	**0.0278**	**4.0000e-005**		**1.4300e-003**	**1.4300e-003**		**1.3100e-003**	**1.3100e-003**	**0.0000**	**3.7134**	**3.7134**	**1.1700e-003**	**0.0000**	**3.7428**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.0000e-005	7.0000e-005	7.0000e-004	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1755	0.1755	0.0000	0.0000	0.1756
Total	**9.0000e-005**	**7.0000e-005**	**7.0000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**2.0000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.1755**	**0.1755**	**0.0000**	**0.0000**	**0.1756**

3.6 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2491	2.2238	1.8108	2.8400e-003		0.1361	0.1361		0.1279	0.1279	0.0000	248.0349	248.0349	0.0604	0.0000	249.5455
Total	**0.2491**	**2.2238**	**1.8108**	**2.8400e-003**		**0.1361**	**0.1361**		**0.1279**	**0.1279**	**0.0000**	**248.0349**	**248.0349**	**0.0604**	**0.0000**	**249.5455**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0357	0.9192	0.2468	2.0000e-003	0.0479	6.6100e-003	0.0545	0.0138	6.3200e-003	0.0202	0.0000	191.4886	191.4886	9.5000e-003	0.0000	191.7261
Worker	0.1280	0.0953	0.9844	2.7400e-003	0.2795	1.8500e-003	0.2813	0.0743	1.7000e-003	0.0760	0.0000	247.3931	247.3931	6.7400e-003	0.0000	247.5615
Total	**0.1637**	**1.0145**	**1.2311**	**4.7400e-003**	**0.3274**	**8.4600e-003**	**0.3358**	**0.0882**	**8.0200e-003**	**0.0962**	**0.0000**	**438.8817**	**438.8817**	**0.0162**	**0.0000**	**439.2876**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2491	2.2238	1.8108	2.8400e-003		0.1361	0.1361		0.1279	0.1279	0.0000	248.0346	248.0346	0.0604	0.0000	249.5452
Total	**0.2491**	**2.2238**	**1.8108**	**2.8400e-003**		**0.1361**	**0.1361**		**0.1279**	**0.1279**	**0.0000**	**248.0346**	**248.0346**	**0.0604**	**0.0000**	**249.5452**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0357	0.9192	0.2468	2.0000e-003	0.0479	6.6100e-003	0.0545	0.0138	6.3200e-003	0.0202	0.0000	191.4886	191.4886	9.5000e-003	0.0000	191.7261
Worker	0.1280	0.0953	0.9844	2.7400e-003	0.2795	1.8500e-003	0.2813	0.0743	1.7000e-003	0.0760	0.0000	247.3931	247.3931	6.7400e-003	0.0000	247.5615
Total	**0.1637**	**1.0145**	**1.2311**	**4.7400e-003**	**0.3274**	**8.4600e-003**	**0.3358**	**0.0882**	**8.0200e-003**	**0.0962**	**0.0000**	**438.8817**	**438.8817**	**0.0162**	**0.0000**	**439.2876**

3.6 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0201	0.1823	0.1601	2.6000e-004		0.0106	0.0106		9.9800e-003	9.9800e-003	0.0000	22.0030	22.0030	5.3700e-003	0.0000	22.1372
Total	**0.0201**	**0.1823**	**0.1601**	**2.6000e-004**		**0.0106**	**0.0106**		**9.9800e-003**	**9.9800e-003**	**0.0000**	**22.0030**	**22.0030**	**5.3700e-003**	**0.0000**	**22.1372**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.6000e-003	0.0746	0.0199	1.8000e-004	4.3100e-003	3.7000e-004	4.6800e-003	1.2500e-003	3.5000e-004	1.6000e-003	0.0000	17.1376	17.1376	7.9000e-004	0.0000	17.1572
Worker	0.0105	7.5700e-003	0.0794	2.4000e-004	0.0252	1.6000e-004	0.0253	6.6900e-003	1.5000e-004	6.8400e-003	0.0000	21.5811	21.5811	5.3000e-004	0.0000	21.5944
Total	**0.0131**	**0.0822**	**0.0993**	**4.2000e-004**	**0.0295**	**5.3000e-004**	**0.0300**	**7.9400e-003**	**5.0000e-004**	**8.4400e-003**	**0.0000**	**38.7187**	**38.7187**	**1.3200e-003**	**0.0000**	**38.7516**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0201	0.1823	0.1601	2.6000e-004		0.0106	0.0106		9.9800e-003	9.9800e-003	0.0000	22.0029	22.0029	5.3700e-003	0.0000	22.1371

Total	**0.0201**	**0.1823**	**0.1601**	**2.6000e-004**		**0.0106**	**0.0106**		**9.9800e-003**	**9.9800e-003**	**0.0000**	**22.0029**	**22.0029**	**5.3700e-003**	**0.0000**	**22.1371**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.6000e-003	0.0746	0.0199	1.8000e-004	4.3100e-003	3.7000e-004	4.6800e-003	1.2500e-003	3.5000e-004	1.6000e-003	0.0000	17.1376	17.1376	7.9000e-004	0.0000	17.1572
Worker	0.0105	7.5700e-003	0.0794	2.4000e-004	0.0252	1.6000e-004	0.0253	6.6900e-003	1.5000e-004	6.8400e-003	0.0000	21.5811	21.5811	5.3000e-004	0.0000	21.5944
Total	**0.0131**	**0.0822**	**0.0993**	**4.2000e-004**	**0.0295**	**5.3000e-004**	**0.0300**	**7.9400e-003**	**5.0000e-004**	**8.4400e-003**	**0.0000**	**38.7187**	**38.7187**	**1.3200e-003**	**0.0000**	**38.7516**

3.7 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0136	0.1407	0.1465	2.3000e-004		7.5300e-003	7.5300e-003		6.9300e-003	6.9300e-003	0.0000	20.0282	20.0282	6.4800e-003	0.0000	20.1902
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0136**	**0.1407**	**0.1465**	**2.3000e-004**		**7.5300e-003**	**7.5300e-003**		**6.9300e-003**	**6.9300e-003**	**0.0000**	**20.0282**	**20.0282**	**6.4800e-003**	**0.0000**	**20.1902**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-004	3.6000e-004	3.7500e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0202	1.0202	3.0000e-005	0.0000	1.0209
Total	**5.0000e-004**	**3.6000e-004**	**3.7500e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**1.0202**	**1.0202**	**3.0000e-005**	**0.0000**	**1.0209**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0136	0.1407	0.1465	2.3000e-004		7.5300e-003	7.5300e-003		6.9300e-003	6.9300e-003	0.0000	20.0282	20.0282	6.4800e-003	0.0000	20.1901
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0136**	**0.1407**	**0.1465**	**2.3000e-004**		**7.5300e-003**	**7.5300e-003**		**6.9300e-003**	**6.9300e-003**	**0.0000**	**20.0282**	**20.0282**	**6.4800e-003**	**0.0000**	**20.1901**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-004	3.6000e-004	3.7500e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0202	1.0202	3.0000e-005	0.0000	1.0209
Total	**5.0000e-004**	**3.6000e-004**	**3.7500e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**1.0202**	**1.0202**	**3.0000e-005**	**0.0000**	**1.0209**

3.8 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.5327					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.4200e-003	0.0168	0.0183	3.0000e-005		1.1100e-003	1.1100e-003		1.1100e-003	1.1100e-003	0.0000	2.5533	2.5533	2.0000e-004	0.0000	2.5582
Total	**2.5352**	**0.0168**	**0.0183**	**3.0000e-005**		**1.1100e-003**	**1.1100e-003**		**1.1100e-003**	**1.1100e-003**	**0.0000**	**2.5533**	**2.5533**	**2.0000e-004**	**0.0000**	**2.5582**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.2300e-003	1.6000e-003	0.0168	5.0000e-005	5.3100e-003	3.0000e-005	5.3500e-003	1.4100e-003	3.0000e-005	1.4400e-003	0.0000	4.5570	4.5570	1.1000e-004	0.0000	4.5598
Total	**2.2300e-003**	**1.6000e-003**	**0.0168**	**5.0000e-005**	**5.3100e-003**	**3.0000e-005**	**5.3500e-003**	**1.4100e-003**	**3.0000e-005**	**1.4400e-003**	**0.0000**	**4.5570**	**4.5570**	**1.1000e-004**	**0.0000**	**4.5598**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.5327					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.4200e-003	0.0168	0.0183	3.0000e-005		1.1100e-003	1.1100e-003		1.1100e-003	1.1100e-003	0.0000	2.5533	2.5533	2.0000e-004	0.0000	2.5582
Total	**2.5352**	**0.0168**	**0.0183**	**3.0000e-005**		**1.1100e-003**	**1.1100e-003**		**1.1100e-003**	**1.1100e-003**	**0.0000**	**2.5533**	**2.5533**	**2.0000e-004**	**0.0000**	**2.5582**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.2300e-003	1.6000e-003	0.0168	5.0000e-005	5.3100e-003	3.0000e-005	5.3500e-003	1.4100e-003	3.0000e-005	1.4400e-003	0.0000	4.5570	4.5570	1.1000e-004	0.0000	4.5598
Total	**2.2300e-003**	**1.6000e-003**	**0.0168**	**5.0000e-005**	**5.3100e-003**	**3.0000e-005**	**5.3500e-003**	**1.4100e-003**	**3.0000e-005**	**1.4400e-003**	**0.0000**	**4.5570**	**4.5570**	**1.1000e-004**	**0.0000**	**4.5598**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.3776	1.5470	4.2534	0.0137	1.2213	0.0120	1.2332	0.3269	0.0112	0.3381	0.0000	1,257.3249	1,257.3249	0.0448	0.0000	1,258.4440
Unmitigated	0.3776	1.5470	4.2534	0.0137	1.2213	0.0120	1.2332	0.3269	0.0112	0.3381	0.0000	1,257.3249	1,257.3249	0.0448	0.0000	1,258.4440

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	503.55	483.30	444.15	1,136,723	1,136,723
Apartments Mid Rise	809.41	776.86	713.93	1,827,177	1,827,177
Enclosed Parking with Elevator	0.00	0.00	0.00		
Day-Care Center	368.10	32.40	31.50	320,382	320,382
Total	1,681.06	1,292.56	1,189.58	3,284,282	3,284,282

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-...	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Apartments Mid Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Day-Care Center	9.50	7.30	7.30	12.70	82.30	5.00	28	58	14

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.607897	0.037434	0.184004	0.107261	0.014919	0.004991	0.012447	0.020659	0.002115	0.001554	0.005334	0.000623	0.000761
Enclosed Parking with Elevator	0.607897	0.037434	0.184004	0.107261	0.014919	0.004991	0.012447	0.020659	0.002115	0.001554	0.005334	0.000623	0.000761

Day-Care Center	0.607897	0.037434	0.184004	0.107261	0.014919	0.004991	0.012447	0.020659	0.002115	0.001554	0.005334	0.000623	0.000761		

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	338.1978	338.1978	0.0338	7.0000e-003	341.1284
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	338.1978	338.1978	0.0338	7.0000e-003	341.1284
NaturalGas Mitigated	0.0167	0.1428	0.0619	9.1000e-004		0.0115	0.0115		0.0115	0.0115	0.0000	165.2360	165.2360	3.1700e-003	3.0300e-003	166.2180
NaturalGas Unmitigated	0.0167	0.1428	0.0619	9.1000e-004		0.0115	0.0115		0.0115	0.0115	0.0000	165.2360	165.2360	3.1700e-003	3.0300e-003	166.2180

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	1.16633e+006	6.2900e-003	0.0537	0.0229	3.4000e-004		4.3500e-003	4.3500e-003		4.3500e-003	4.3500e-003	0.0000	62.2396	62.2396	1.1900e-003	1.1400e-003	62.6094
Apartments Mid Rise	1.87476e+006	0.0101	0.0864	0.0368	5.5000e-004		6.9800e-003	6.9800e-003		6.9800e-003	6.9800e-003	0.0000	100.0444	100.0444	1.9200e-003	1.8300e-003	100.6389
Day-Care Center	55320	3.0000e-004	2.7100e-003	2.2800e-003	2.0000e-005		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004	0.0000	2.9521	2.9521	6.0000e-005	5.0000e-005	2.9696

Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0167**	**0.1428**	**0.0619**	**9.1000e-004**		**0.0115**	**0.0115**		**0.0115**	**0.0115**	**0.0000**	**165.2360**	**165.2360**	**3.1700e-003**	**3.0200e-003**	**166.2180**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	1.16633e+006	6.2900e-003	0.0537	0.0229	3.4000e-004		4.3500e-003	4.3500e-003		4.3500e-003	4.3500e-003	0.0000	62.2396	62.2396	1.1900e-003	1.1400e-003	62.6094
Apartments Mid Rise	1.87476e+006	0.0101	0.0864	0.0368	5.5000e-004		6.9800e-003	6.9800e-003		6.9800e-003	6.9800e-003	0.0000	100.0444	100.0444	1.9200e-003	1.8300e-003	100.6389
Day-Care Center	55320	3.0000e-004	2.7100e-003	2.2800e-003	2.0000e-005		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004	0.0000	2.9521	2.9521	6.0000e-005	5.0000e-005	2.9696
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0167**	**0.1428**	**0.0619**	**9.1000e-004**		**0.0115**	**0.0115**		**0.0115**	**0.0115**	**0.0000**	**165.2360**	**165.2360**	**3.1700e-003**	**3.0200e-003**	**166.2180**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	557327	73.3118	7.3300e-003	1.5200e-003	73.9471
Apartments Mid Rise	895852	117.8420	0.0118	2.4400e-003	118.8631
Day-Care Center	16170	2.1270	2.1000e-004	4.0000e-005	2.1455
Enclosed Parking with Elevator	1.10168e+006	144.9170	0.0145	3.0000e-003	146.1727

Total		**338.1978**	**0.0338**	**7.0000e-003**	**341.1284**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	557327	73.3118	7.3300e-003	1.5200e-003	73.9471
Apartments Mid Rise	895852	117.8420	0.0118	2.4400e-003	118.8631
Day-Care Center	16170	2.1270	2.1000e-004	4.0000e-005	2.1455
Enclosed Parking with Elevator	1.10168e+006	144.9170	0.0145	3.0000e-003	146.1727
Total		**338.1978**	**0.0338**	**7.0000e-003**	**341.1284**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.7346	0.0546	2.6348	2.9000e-004		0.0164	0.0164		0.0164	0.0164	0.0000	32.4031	32.4031	4.7000e-003	5.2000e-004	32.6744
Unmitigated	1.7346	0.0546	2.6348	2.9000e-004		0.0164	0.0164		0.0164	0.0164	0.0000	32.4031	32.4031	4.7000e-003	5.2000e-004	32.6744

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2533					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.3986					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	2.8400e-003	0.0243	0.0103	1.6000e-004		1.9600e-003	1.9600e-003		1.9600e-003	1.9600e-003	0.0000	28.1238	28.1238	5.4000e-004	5.2000e-004	28.2909
Landscaping	0.0798	0.0303	2.6245	1.4000e-004		0.0145	0.0145		0.0145	0.0145	0.0000	4.2793	4.2793	4.1600e-003	0.0000	4.3834
Total	**1.7346**	**0.0546**	**2.6348**	**3.0000e-004**		**0.0164**	**0.0164**		**0.0164**	**0.0164**	**0.0000**	**32.4031**	**32.4031**	**4.7000e-003**	**5.2000e-004**	**32.6744**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2533					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.3986					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	2.8400e-003	0.0243	0.0103	1.6000e-004		1.9600e-003	1.9600e-003		1.9600e-003	1.9600e-003	0.0000	28.1238	28.1238	5.4000e-004	5.2000e-004	28.2909
Landscaping	0.0798	0.0303	2.6245	1.4000e-004		0.0145	0.0145		0.0145	0.0145	0.0000	4.2793	4.2793	4.1600e-003	0.0000	4.3834
Total	**1.7346**	**0.0546**	**2.6348**	**3.0000e-004**		**0.0164**	**0.0164**		**0.0164**	**0.0164**	**0.0000**	**32.4031**	**32.4031**	**4.7000e-003**	**5.2000e-004**	**32.6744**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	31.5856	0.0305	0.0183	37.8016
Unmitigated	31.5856	0.0305	0.0183	37.8016

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	22.9342 / 14.4585	31.0948	0.0302	0.0181	37.2505
Day-Care Center	0.218182 / 0.561038	0.4908	3.1000e-004	1.8000e-004	0.5510
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**31.5856**	**0.0305**	**0.0183**	**37.8016**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	22.9342 / 14.4585	31.0948	0.0302	0.0181	37.2505
Day-Care Center	0.218182 / 0.561038	0.4908	3.1000e-004	1.8000e-004	0.5510
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**31.5856**	**0.0305**	**0.0183**	**37.8016**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	36.2034	2.1396	0.0000	89.6925
Unmitigated	36.2034	2.1396	0.0000	89.6925

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	161.92	32.8683	1.9425	0.0000	81.4298
Day-Care Center	16.43	3.3351	0.1971	0.0000	8.2627
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Total		**36.2034**	**2.1396**	**0.0000**	**89.6925**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	161.92	32.8683	1.9425	0.0000	81.4298
Day-Care Center	16.43	3.3351	0.1971	0.0000	8.2627
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Total		**36.2034**	**2.1396**	**0.0000**	**89.6925**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

15-084 Tamien Mixed Use, Phase 1 2018 TAC - Santa Clara County, Annual

15-084 Tamien Mixed Use, Phase 1 2018 TAC

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Day-Care Center	90.00	Student	0.00	3,000.00	0
Enclosed Parking with Elevator	470.00	Space	4.23	188,000.00	0
Apartments Mid Rise	135.00	Dwelling Unit	0.00	135,000.00	386
Apartments Mid Rise	217.00	Dwelling Unit	4.46	217,000.00	621

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2021
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E 2020 rate 290

Land Use - Affordable Housing: 135 units, 3000-sf of child care, 175 spaces, MR Phase 1: 217 units, 295 underground spaces, default acreage for parking

Construction Phase - Default Construction Schedule, 2019-2020, add trenching

Off-road Equipment - Default Construction Equipment

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - Default trenching equipment

Trips and VMT - TAC trip length 1 mile

Demolition - assumed demolition of child care center would happen in Phase 2

Grading - Applicant: 55,000-cy of export during grading, half it during phases 27500

Vehicle Trips - Update with traffic trip generation

Woodstoves - All gas (112.64)

Energy Use -

Water And Wastewater - 100% aerobic

Construction Off-road Equipment Mitigation - BMPS, tier 2 lvl 3 mitigation

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	11.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstructionPhase	PhaseEndDate	3/11/2019	3/25/2019
tblGrading	MaterialExported	0.00	27,500.00
tblLandUse	LandUseSquareFeet	5,087.06	3,000.00
tblLandUse	LotAcreage	0.12	0.00
tblLandUse	LotAcreage	3.55	0.00
tblLandUse	LotAcreage	5.71	4.46
tblProjectCharacteristics	CO2IntensityFactor	641.35	290

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.5117	4.5570	3.6588	9.6100e-003	0.5095	0.1915	0.7010	0.1787	0.1794	0.3581	0.0000	876.6658	876.6658	0.1063	0.0000	879.3230
2020	2.5847	0.4239	0.4447	9.9000e-004	0.0360	0.0198	0.0558	9.6700e-003	0.0186	0.0282	0.0000	88.8804	88.8804	0.0135	0.0000	89.2178
Maximum	**2.5847**	**4.5570**	**3.6588**	**9.6100e-003**	**0.5095**	**0.1915**	**0.7010**	**0.1787**	**0.1794**	**0.3581**	**0.0000**	**876.6658**	**876.6658**	**0.1063**	**0.0000**	**879.3230**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.3221	4.7191	3.7948	9.6100e-003	0.4238	0.0278	0.4517	0.1141	0.0273	0.1415	0.0000	876.6654	876.6654	0.1063	0.0000	879.3226
2020	2.5693	0.5326	0.4809	9.9000e-004	0.0360	3.0000e-003	0.0390	9.6700e-003	2.9700e-003	0.0126	0.0000	88.8803	88.8803	0.0135	0.0000	89.2177
Maximum	**2.5693**	**4.7191**	**3.7948**	**9.6100e-003**	**0.4238**	**0.0278**	**0.4517**	**0.1141**	**0.0273**	**0.1415**	**0.0000**	**876.6654**	**876.6654**	**0.1063**	**0.0000**	**879.3226**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**6.62**	**-5.44**	**-4.20**	**0.00**	**15.71**	**85.41**	**35.17**	**34.28**	**84.70**	**60.11**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)

1	**1-1-2019**	**3-31-2019**	1.6687	1.5235
2	**4-1-2019**	**6-30-2019**	1.1193	1.1582
3	**7-1-2019**	**9-30-2019**	1.1316	1.1709
4	**10-1-2019**	**12-31-2019**	1.1446	1.1839
5	**1-1-2020**	**3-31-2020**	3.0155	3.1093
		Highest	3.0155	3.1093

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	3.3561	0.0677	4.8612	4.5900e-003		0.3342	0.3342		0.3342	0.3342	32.0952	17.4624	49.5575	0.0558	2.1000e-003	51.5784
Energy	0.0167	0.1428	0.0619	9.1000e-004		0.0115	0.0115		0.0115	0.0115	0.0000	503.4338	503.4338	0.0370	0.0100	507.3464
Mobile	0.6328	2.6110	7.2209	0.0235	2.0926	0.0204	2.1130	0.5602	0.0191	0.5793	0.0000	2,149.2067	2,149.2067	0.0760	0.0000	2,151.1061
Waste						0.0000	0.0000		0.0000	0.0000	36.2034	0.0000	36.2034	2.1396	0.0000	89.6925
Water						0.0000	0.0000		0.0000	0.0000	7.3452	23.3942	30.7394	0.7568	0.0183	55.1111
Total	**4.0056**	**2.8215**	**12.1440**	**0.0290**	**2.0926**	**0.3662**	**2.4588**	**0.5602**	**0.3649**	**0.9250**	**75.6438**	**2,693.4970**	**2,769.1408**	**3.0650**	**0.0304**	**2,854.8345**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Area	3.3561	0.0677	4.8612	4.5900e-003		0.3342	0.3342		0.3342	0.3342	32.0952	17.4624	49.5575	0.0558	2.1000e-003	51.5784
Energy	0.0167	0.1428	0.0619	9.1000e-004		0.0115	0.0115		0.0115	0.0115	0.0000	503.4338	503.4338	0.0370	0.0100	507.3464
Mobile	0.6328	2.6110	7.2209	0.0235	2.0926	0.0204	2.1130	0.5602	0.0191	0.5793	0.0000	2,149.2067	2,149.2067	0.0760	0.0000	2,151.1061
Waste						0.0000	0.0000		0.0000	0.0000	36.2034	0.0000	36.2034	2.1396	0.0000	89.6925
Water						0.0000	0.0000		0.0000	0.0000	7.3452	23.3942	30.7394	0.7568	0.0183	55.1111
Total	**4.0056**	**2.8215**	**12.1440**	**0.0290**	**2.0926**	**0.3662**	**2.4588**	**0.5602**	**0.3649**	**0.9250**	**75.6438**	**2,693.4970**	**2,769.1408**	**3.0650**	**0.0304**	**2,854.8345**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2019	1/28/2019	5	20	
2	Site Preparation	Site Preparation	1/29/2019	2/11/2019	5	10	
3	Grading	Grading	2/12/2019	3/11/2019	5	20	
4	Trenching	Trenching	3/12/2019	3/25/2019	5	10	
5	Building Construction	Building Construction	3/12/2019	1/27/2020	5	230	
6	Paving	Paving	1/28/2020	2/24/2020	5	20	
7	Architectural Coating	Architectural Coating	2/25/2020	3/23/2020	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 4.23

Residential Indoor: 712,800; Residential Outdoor: 237,600; Non-Residential Indoor: 4,500; Non-Residential Outdoor: 1,500; Striped

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48
Trenching	Excavators	1	8.00	158	0.38
Trenching	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	2,719.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	334.00	69.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

Architectural Coating	1	67.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Trenching	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0351	0.3578	0.2206	3.9000e-004		0.0180	0.0180		0.0167	0.0167	0.0000	34.6263	34.6263	9.6300e-003	0.0000	34.8672
Total	**0.0351**	**0.3578**	**0.2206**	**3.9000e-004**	**0.0000**	**0.0180**	**0.0180**	**0.0000**	**0.0167**	**0.0167**	**0.0000**	**34.6263**	**34.6263**	**9.6300e-003**	**0.0000**	**34.8672**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.4000e-004	4.1000e-004	4.1900e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0531	1.0531	3.0000e-005	0.0000	1.0538
Total	**5.4000e-004**	**4.1000e-004**	**4.1900e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**1.0531**	**1.0531**	**3.0000e-005**	**0.0000**	**1.0538**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0126	0.3266	0.2467	3.9000e-004		1.3700e-003	1.3700e-003		1.3700e-003	1.3700e-003	0.0000	34.6263	34.6263	9.6300e-003	0.0000	34.8671
Total	**0.0126**	**0.3266**	**0.2467**	**3.9000e-004**	**0.0000**	**1.3700e-003**	**1.3700e-003**	**0.0000**	**1.3700e-003**	**1.3700e-003**	**0.0000**	**34.6263**	**34.6263**	**9.6300e-003**	**0.0000**	**34.8671**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.4000e-004	4.1000e-004	4.1900e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0531	1.0531	3.0000e-005	0.0000	1.0538
Total	**5.4000e-004**	**4.1000e-004**	**4.1900e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**1.0531**	**1.0531**	**3.0000e-005**	**0.0000**	**1.0538**

3.3 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0217	0.2279	0.1103	1.9000e-004		0.0120	0.0120		0.0110	0.0110	0.0000	17.0843	17.0843	5.4100e-003	0.0000	17.2195
Total	**0.0217**	**0.2279**	**0.1103**	**1.9000e-004**	**0.0903**	**0.0120**	**0.1023**	**0.0497**	**0.0110**	**0.0607**	**0.0000**	**17.0843**	**17.0843**	**5.4100e-003**	**0.0000**	**17.2195**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.3000e-004	2.4000e-004	2.5100e-003	1.0000e-005	7.1000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6319	0.6319	2.0000e-005	0.0000	0.6323
Total	**3.3000e-004**	**2.4000e-004**	**2.5100e-003**	**1.0000e-005**	**7.1000e-004**	**0.0000**	**7.2000e-004**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.6319**	**0.6319**	**2.0000e-005**	**0.0000**	**0.6323**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0407	0.0000	0.0407	0.0112	0.0000	0.0112	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.0500e-003	0.1686	0.1148	1.9000e-004		7.1000e-004	7.1000e-004		7.1000e-004	7.1000e-004	0.0000	17.0843	17.0843	5.4100e-003	0.0000	17.2195
Total	**6.0500e-003**	**0.1686**	**0.1148**	**1.9000e-004**	**0.0407**	**7.1000e-004**	**0.0414**	**0.0112**	**7.1000e-004**	**0.0119**	**0.0000**	**17.0843**	**17.0843**	**5.4100e-003**	**0.0000**	**17.2195**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.3000e-004	2.4000e-004	2.5100e-003	1.0000e-005	7.1000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6319	0.6319	2.0000e-005	0.0000	0.6323
Total	**3.3000e-004**	**2.4000e-004**	**2.5100e-003**	**1.0000e-005**	**7.1000e-004**	**0.0000**	**7.2000e-004**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.6319**	**0.6319**	**2.0000e-005**	**0.0000**	**0.6323**

3.4 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0655	0.0000	0.0655	0.0337	0.0000	0.0337	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Off-Road	0.0258	0.2835	0.1629	3.0000e-004		0.0140	0.0140		0.0129	0.0129	0.0000	26.6423	26.6423	8.4300e-003	0.0000	26.8530
Total	**0.0258**	**0.2835**	**0.1629**	**3.0000e-004**	**0.0655**	**0.0140**	**0.0795**	**0.0337**	**0.0129**	**0.0465**	**0.0000**	**26.6423**	**26.6423**	**8.4300e-003**	**0.0000**	**26.8530**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0124	0.4233	0.0836	1.0800e-003	0.0230	1.6200e-003	0.0247	6.3400e-003	1.5500e-003	7.8900e-003	0.0000	104.7692	104.7692	4.9100e-003	0.0000	104.8919
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.4000e-004	4.1000e-004	4.1900e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0531	1.0531	3.0000e-005	0.0000	1.0538
Total	**0.0129**	**0.4237**	**0.0878**	**1.0900e-003**	**0.0242**	**1.6300e-003**	**0.0259**	**6.6600e-003**	**1.5600e-003**	**8.2100e-003**	**0.0000**	**105.8223**	**105.8223**	**4.9400e-003**	**0.0000**	**105.9457**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0295	0.0000	0.0295	7.5800e-003	0.0000	7.5800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0101	0.2628	0.1899	3.0000e-004		1.1600e-003	1.1600e-003		1.1600e-003	1.1600e-003	0.0000	26.6422	26.6422	8.4300e-003	0.0000	26.8530
Total	**0.0101**	**0.2628**	**0.1899**	**3.0000e-004**	**0.0295**	**1.1600e-003**	**0.0307**	**7.5800e-003**	**1.1600e-003**	**8.7400e-003**	**0.0000**	**26.6422**	**26.6422**	**8.4300e-003**	**0.0000**	**26.8530**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0124	0.4233	0.0836	1.0800e-003	0.0230	1.6200e-003	0.0247	6.3400e-003	1.5500e-003	7.8900e-003	0.0000	104.7692	104.7692	4.9100e-003	0.0000	104.8919
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.4000e-004	4.1000e-004	4.1900e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0531	1.0531	3.0000e-005	0.0000	1.0538
Total	**0.0129**	**0.4237**	**0.0878**	**1.0900e-003**	**0.0242**	**1.6300e-003**	**0.0259**	**6.6600e-003**	**1.5600e-003**	**8.2100e-003**	**0.0000**	**105.8223**	**105.8223**	**4.9400e-003**	**0.0000**	**105.9457**

3.5 Trenching - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.4700e-003	0.0251	0.0278	4.0000e-005		1.4300e-003	1.4300e-003		1.3100e-003	1.3100e-003	0.0000	3.7134	3.7134	1.1700e-003	0.0000	3.7428
Total	**2.4700e-003**	**0.0251**	**0.0278**	**4.0000e-005**		**1.4300e-003**	**1.4300e-003**		**1.3100e-003**	**1.3100e-003**	**0.0000**	**3.7134**	**3.7134**	**1.1700e-003**	**0.0000**	**3.7428**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.0000e-005	7.0000e-005	7.0000e-004	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1755	0.1755	0.0000	0.0000	0.1756
Total	**9.0000e-005**	**7.0000e-005**	**7.0000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**2.0000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.1755**	**0.1755**	**0.0000**	**0.0000**	**0.1756**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.7300e-003	0.0371	0.0313	4.0000e-005		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	3.7134	3.7134	1.1700e-003	0.0000	3.7428
Total	**1.7300e-003**	**0.0371**	**0.0313**	**4.0000e-005**		**1.9000e-004**	**1.9000e-004**		**1.9000e-004**	**1.9000e-004**	**0.0000**	**3.7134**	**3.7134**	**1.1700e-003**	**0.0000**	**3.7428**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.0000e-005	7.0000e-005	7.0000e-004	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1755	0.1755	0.0000	0.0000	0.1756
Total	**9.0000e-005**	**7.0000e-005**	**7.0000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**2.0000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.1755**	**0.1755**	**0.0000**	**0.0000**	**0.1756**

3.6 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2491	2.2238	1.8108	2.8400e-003		0.1361	0.1361		0.1279	0.1279	0.0000	248.0349	248.0349	0.0604	0.0000	249.5455
Total	**0.2491**	**2.2238**	**1.8108**	**2.8400e-003**		**0.1361**	**0.1361**		**0.1279**	**0.1279**	**0.0000**	**248.0349**	**248.0349**	**0.0604**	**0.0000**	**249.5455**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0357	0.9192	0.2468	2.0000e-003	0.0479	6.6100e-003	0.0545	0.0138	6.3200e-003	0.0202	0.0000	191.4886	191.4886	9.5000e-003	0.0000	191.7261
Worker	0.1280	0.0953	0.9844	2.7400e-003	0.2795	1.8500e-003	0.2813	0.0743	1.7000e-003	0.0760	0.0000	247.3931	247.3931	6.7400e-003	0.0000	247.5615
Total	**0.1637**	**1.0145**	**1.2311**	**4.7400e-003**	**0.3274**	**8.4600e-003**	**0.3358**	**0.0882**	**8.0200e-003**	**0.0962**	**0.0000**	**438.8817**	**438.8817**	**0.0162**	**0.0000**	**439.2876**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1140	2.4850	1.8857	2.8400e-003		0.0143	0.0143		0.0143	0.0143	0.0000	248.0346	248.0346	0.0604	0.0000	249.5452
Total	**0.1140**	**2.4850**	**1.8857**	**2.8400e-003**		**0.0143**	**0.0143**		**0.0143**	**0.0143**	**0.0000**	**248.0346**	**248.0346**	**0.0604**	**0.0000**	**249.5452**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0357	0.9192	0.2468	2.0000e-003	0.0479	6.6100e-003	0.0545	0.0138	6.3200e-003	0.0202	0.0000	191.4886	191.4886	9.5000e-003	0.0000	191.7261
Worker	0.1280	0.0953	0.9844	2.7400e-003	0.2795	1.8500e-003	0.2813	0.0743	1.7000e-003	0.0760	0.0000	247.3931	247.3931	6.7400e-003	0.0000	247.5615
Total	**0.1637**	**1.0145**	**1.2311**	**4.7400e-003**	**0.3274**	**8.4600e-003**	**0.3358**	**0.0882**	**8.0200e-003**	**0.0962**	**0.0000**	**438.8817**	**438.8817**	**0.0162**	**0.0000**	**439.2876**

3.6 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0201	0.1823	0.1601	2.6000e-004		0.0106	0.0106		9.9800e-003	9.9800e-003	0.0000	22.0030	22.0030	5.3700e-003	0.0000	22.1372

Total	**0.0201**	**0.1823**	**0.1601**	**2.6000e-004**		**0.0106**	**0.0106**		**9.9800e-003**	**9.9800e-003**	**0.0000**	**22.0030**	**22.0030**	**5.3700e-003**	**0.0000**	**22.1372**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.6000e-003	0.0746	0.0199	1.8000e-004	4.3100e-003	3.7000e-004	4.6800e-003	1.2500e-003	3.5000e-004	1.6000e-003	0.0000	17.1376	17.1376	7.9000e-004	0.0000	17.1572
Worker	0.0105	7.5700e-003	0.0794	2.4000e-004	0.0252	1.6000e-004	0.0253	6.6900e-003	1.5000e-004	6.8400e-003	0.0000	21.5811	21.5811	5.3000e-004	0.0000	21.5944
Total	**0.0131**	**0.0822**	**0.0993**	**4.2000e-004**	**0.0295**	**5.3000e-004**	**0.0300**	**7.9400e-003**	**5.0000e-004**	**8.4400e-003**	**0.0000**	**38.7187**	**38.7187**	**1.3200e-003**	**0.0000**	**38.7516**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0103	0.2238	0.1698	2.6000e-004		1.2900e-003	1.2900e-003		1.2900e-003	1.2900e-003	0.0000	22.0029	22.0029	5.3700e-003	0.0000	22.1371
Total	**0.0103**	**0.2238**	**0.1698**	**2.6000e-004**		**1.2900e-003**	**1.2900e-003**		**1.2900e-003**	**1.2900e-003**	**0.0000**	**22.0029**	**22.0029**	**5.3700e-003**	**0.0000**	**22.1371**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.6000e-003	0.0746	0.0199	1.8000e-004	4.3100e-003	3.7000e-004	4.6800e-003	1.2500e-003	3.5000e-004	1.6000e-003	0.0000	17.1376	17.1376	7.9000e-004	0.0000	17.1572
Worker	0.0105	7.5700e-003	0.0794	2.4000e-004	0.0252	1.6000e-004	0.0253	6.6900e-003	1.5000e-004	6.8400e-003	0.0000	21.5811	21.5811	5.3000e-004	0.0000	21.5944
Total	**0.0131**	**0.0822**	**0.0993**	**4.2000e-004**	**0.0295**	**5.3000e-004**	**0.0300**	**7.9400e-003**	**5.0000e-004**	**8.4400e-003**	**0.0000**	**38.7187**	**38.7187**	**1.3200e-003**	**0.0000**	**38.7516**

3.7 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0136	0.1407	0.1465	2.3000e-004		7.5300e-003	7.5300e-003		6.9300e-003	6.9300e-003	0.0000	20.0282	20.0282	6.4800e-003	0.0000	20.1902
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0136**	**0.1407**	**0.1465**	**2.3000e-004**		**7.5300e-003**	**7.5300e-003**		**6.9300e-003**	**6.9300e-003**	**0.0000**	**20.0282**	**20.0282**	**6.4800e-003**	**0.0000**	**20.1902**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-004	3.6000e-004	3.7500e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0202	1.0202	3.0000e-005	0.0000	1.0209
Total	**5.0000e-004**	**3.6000e-004**	**3.7500e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**1.0202**	**1.0202**	**3.0000e-005**	**0.0000**	**1.0209**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.3100e-003	0.2012	0.1730	2.3000e-004		1.0000e-003	1.0000e-003		1.0000e-003	1.0000e-003	0.0000	20.0282	20.0282	6.4800e-003	0.0000	20.1901
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**9.3100e-003**	**0.2012**	**0.1730**	**2.3000e-004**		**1.0000e-003**	**1.0000e-003**		**1.0000e-003**	**1.0000e-003**	**0.0000**	**20.0282**	**20.0282**	**6.4800e-003**	**0.0000**	**20.1901**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-004	3.6000e-004	3.7500e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0202	1.0202	3.0000e-005	0.0000	1.0209
Total	**5.0000e-004**	**3.6000e-004**	**3.7500e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**1.0202**	**1.0202**	**3.0000e-005**	**0.0000**	**1.0209**

3.8 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.5327					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.4200e-003	0.0168	0.0183	3.0000e-005		1.1100e-003	1.1100e-003		1.1100e-003	1.1100e-003	0.0000	2.5533	2.5533	2.0000e-004	0.0000	2.5582
Total	**2.5352**	**0.0168**	**0.0183**	**3.0000e-005**		**1.1100e-003**	**1.1100e-003**		**1.1100e-003**	**1.1100e-003**	**0.0000**	**2.5533**	**2.5533**	**2.0000e-004**	**0.0000**	**2.5582**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.2300e-003	1.6000e-003	0.0168	5.0000e-005	5.3100e-003	3.0000e-005	5.3500e-003	1.4100e-003	3.0000e-005	1.4400e-003	0.0000	4.5570	4.5570	1.1000e-004	0.0000	4.5598
Total	**2.2300e-003**	**1.6000e-003**	**0.0168**	**5.0000e-005**	**5.3100e-003**	**3.0000e-005**	**5.3500e-003**	**1.4100e-003**	**3.0000e-005**	**1.4400e-003**	**0.0000**	**4.5570**	**4.5570**	**1.1000e-004**	**0.0000**	**4.5598**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.5327					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.1400e-003	0.0235	0.0183	3.0000e-005		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004	0.0000	2.5533	2.5533	2.0000e-004	0.0000	2.5582
Total	**2.5339**	**0.0235**	**0.0183**	**3.0000e-005**		**1.4000e-004**	**1.4000e-004**		**1.4000e-004**	**1.4000e-004**	**0.0000**	**2.5533**	**2.5533**	**2.0000e-004**	**0.0000**	**2.5582**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.2300e-003	1.6000e-003	0.0168	5.0000e-005	5.3100e-003	3.0000e-005	5.3500e-003	1.4100e-003	3.0000e-005	1.4400e-003	0.0000	4.5570	4.5570	1.1000e-004	0.0000	4.5598
Total	**2.2300e-003**	**1.6000e-003**	**0.0168**	**5.0000e-005**	**5.3100e-003**	**3.0000e-005**	**5.3500e-003**	**1.4100e-003**	**3.0000e-005**	**1.4400e-003**	**0.0000**	**4.5570**	**4.5570**	**1.1000e-004**	**0.0000**	**4.5598**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Mitigated	0.6328	2.6110	7.2209	0.0235	2.0926	0.0204	2.1130	0.5602	0.0191	0.5793	0.0000	2,149.2067	2,149.2067	0.0760	0.0000	2,151.1061
Unmitigated	0.6328	2.6110	7.2209	0.0235	2.0926	0.0204	2.1130	0.5602	0.0191	0.5793	0.0000	2,149.2067	2,149.2067	0.0760	0.0000	2,151.1061

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	897.75	862.65	791.10	2,026,680	2,026,680
Apartments Mid Rise	1,443.05	1,386.63	1271.62	3,257,701	3,257,701
Day-Care Center	394.20	35.10	33.30	343,094	343,094
Enclosed Parking with Elevator	0.00	0.00	0.00		
Total	2,735.00	2,284.38	2,096.02	5,627,475	5,627,475

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-...	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Apartments Mid Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Day-Care Center	9.50	7.30	7.30	12.70	82.30	5.00	28	58	14
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.607897	0.037434	0.184004	0.107261	0.014919	0.004991	0.012447	0.020659	0.002115	0.001554	0.005334	0.000623	0.000761
Day-Care Center	0.607897	0.037434	0.184004	0.107261	0.014919	0.004991	0.012447	0.020659	0.002115	0.001554	0.005334	0.000623	0.000761
Enclosed Parking with Elevator	0.607897	0.037434	0.184004	0.107261	0.014919	0.004991	0.012447	0.020659	0.002115	0.001554	0.005334	0.000623	0.000761

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	338.1978	338.1978	0.0338	7.0000e-003	341.1284
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	338.1978	338.1978	0.0338	7.0000e-003	341.1284
NaturalGas Mitigated	0.0167	0.1428	0.0619	9.1000e-004		0.0115	0.0115		0.0115	0.0115	0.0000	165.2360	165.2360	3.1700e-003	3.0300e-003	166.2180
NaturalGas Unmitigated	0.0167	0.1428	0.0619	9.1000e-004		0.0115	0.0115		0.0115	0.0115	0.0000	165.2360	165.2360	3.1700e-003	3.0300e-003	166.2180

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	1.16633e+006	6.2900e-003	0.0537	0.0229	3.4000e-004		4.3500e-003	4.3500e-003		4.3500e-003	4.3500e-003	0.0000	62.2396	62.2396	1.1900e-003	1.1400e-003	62.6094
Apartments Mid Rise	1.87476e+006	0.0101	0.0864	0.0368	5.5000e-004		6.9800e-003	6.9800e-003		6.9800e-003	6.9800e-003	0.0000	100.0444	100.0444	1.9200e-003	1.8300e-003	100.6389
Day-Care Center	55320	3.0000e-004	2.7100e-003	2.2800e-003	2.0000e-005		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004	0.0000	2.9521	2.9521	6.0000e-005	5.0000e-005	2.9696
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0167**	**0.1428**	**0.0619**	**9.1000e-004**		**0.0115**	**0.0115**		**0.0115**	**0.0115**	**0.0000**	**165.2360**	**165.2360**	**3.1700e-003**	**3.0200e-003**	**166.2180**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	1.16633e+006	6.2900e-003	0.0537	0.0229	3.4000e-004		4.3500e-003	4.3500e-003		4.3500e-003	4.3500e-003	0.0000	62.2396	62.2396	1.1900e-003	1.1400e-003	62.6094
Apartments Mid Rise	1.87476e+006	0.0101	0.0864	0.0368	5.5000e-004		6.9800e-003	6.9800e-003		6.9800e-003	6.9800e-003	0.0000	100.0444	100.0444	1.9200e-003	1.8300e-003	100.6389
Day-Care Center	55320	3.0000e-004	2.7100e-003	2.2800e-003	2.0000e-005		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004	0.0000	2.9521	2.9521	6.0000e-005	5.0000e-005	2.9696
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0167**	**0.1428**	**0.0619**	**9.1000e-004**		**0.0115**	**0.0115**		**0.0115**	**0.0115**	**0.0000**	**165.2360**	**165.2360**	**3.1700e-003**	**3.0200e-003**	**166.2180**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	557327	73.3118	7.3300e-003	1.5200e-003	73.9471
Apartments Mid Rise	895852	117.8420	0.0118	2.4400e-003	118.8631
Day-Care Center	16170	2.1270	2.1000e-004	4.0000e-005	2.1455
Enclosed Parking with Elevator	1.10168e+006	144.9170	0.0145	3.0000e-003	146.1727
Total		**338.1978**	**0.0338**	**7.0000e-003**	**341.1284**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	557327	73.3118	7.3300e-003	1.5200e-003	73.9471
Apartments Mid Rise	895852	117.8420	0.0118	2.4400e-003	118.8631
Day-Care Center	16170	2.1270	2.1000e-004	4.0000e-005	2.1455
Enclosed Parking with Elevator	1.10168e+006	144.9170	0.0145	3.0000e-003	146.1727
Total		**338.1978**	**0.0338**	**7.0000e-003**	**341.1284**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	3.3561	0.0677	4.8612	4.5900e-003		0.3342	0.3342		0.3342	0.3342	32.0952	17.4624	49.5575	0.0558	2.1000e-003	51.5784
Unmitigated	3.3561	0.0677	4.8612	4.5900e-003		0.3342	0.3342		0.3342	0.3342	32.0952	17.4624	49.5575	0.0558	2.1000e-003	51.5784

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2533					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.3986					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.6244	0.0374	2.2367	4.4500e-003		0.3198	0.3198		0.3198	0.3198	32.0952	13.1830	45.2782	0.0516	2.1000e-003	47.1950
Landscaping	0.0798	0.0303	2.6245	1.4000e-004		0.0145	0.0145		0.0145	0.0145	0.0000	4.2793	4.2793	4.1600e-003	0.0000	4.3834
Total	**3.3561**	**0.0677**	**4.8612**	**4.5900e-003**		**0.3342**	**0.3342**		**0.3342**	**0.3342**	**32.0952**	**17.4624**	**49.5575**	**0.0557**	**2.1000e-003**	**51.5784**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2533					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.3986					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.6244	0.0374	2.2367	4.4500e-003		0.3198	0.3198		0.3198	0.3198	32.0952	13.1830	45.2782	0.0516	2.1000e-003	47.1950
Landscaping	0.0798	0.0303	2.6245	1.4000e-004		0.0145	0.0145		0.0145	0.0145	0.0000	4.2793	4.2793	4.1600e-003	0.0000	4.3834
Total	**3.3561**	**0.0677**	**4.8612**	**4.5900e-003**		**0.3342**	**0.3342**		**0.3342**	**0.3342**	**32.0952**	**17.4624**	**49.5575**	**0.0557**	**2.1000e-003**	**51.5784**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	30.7394	0.7568	0.0183	55.1111
Unmitigated	30.7394	0.7568	0.0183	55.1111

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	22.9342 / 14.4585	30.2566	0.7496	0.0181	54.3969
Day-Care Center	0.218182 / 0.561038	0.4828	7.1500e-003	1.8000e-004	0.7142
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**30.7394**	**0.7568**	**0.0183**	**55.1111**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e

Land Use	Mgal	MT/yr			
Apartments Mid Rise	22.9342 / 14.4585	30.2566	0.7496	0.0181	54.3969
Day-Care Center	0.218182 / 0.561038	0.4828	7.1500e-003	1.8000e-004	0.7142
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**30.7394**	**0.7568**	**0.0183**	**55.1111**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	36.2034	2.1396	0.0000	89.6925
Unmitigated	36.2034	2.1396	0.0000	89.6925

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			

Apartments Mid Rise	161.92	32.8683	1.9425	0.0000	81.4298
Day-Care Center	16.43	3.3351	0.1971	0.0000	8.2627
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Total		**36.2034**	**2.1396**	**0.0000**	**89.6925**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	161.92	32.8683	1.9425	0.0000	81.4298
Day-Care Center	16.43	3.3351	0.1971	0.0000	8.2627
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Total		**36.2034**	**2.1396**	**0.0000**	**89.6925**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

15-084 Tamien TOD Phase 2 AQ Construction - Santa Clara County, Annual

15-084 Tamien TOD Phase 2 AQ Construction

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	274.00	Space	2.47	109,600.00	0
Apartments Mid Rise	217.00	Dwelling Unit	2.50	217,000.00	621

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2023
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E 2020 rate 290

Land Use - MR Phase 2: 217 units and 274 spaces in underground parking, default acreage for underground

Construction Phase - Default construction schedule, default trenching added

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - Default equipment

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - default trenching equipment

Trips and VMT -

Demolition - Estimated child care square footage from 2015 report

Grading - grading export 27,500 with default acres graded

Vehicle Trips - apt: 3.73, sat 3.58, sun 3.29

Woodstoves - all gas (69.44)

Energy Use -

Water And Wastewater - 100% aerobic

Table Name	Column Name	Default Value	New Value
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberGas	32.55	69.44
tblFireplaces	NumberWood	36.89	0.00
tblGrading	MaterialExported	0.00	27,500.00
tblLandUse	LotAcreage	5.71	2.50
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblVehicleTrips	ST_TR	6.39	3.58
tblVehicleTrips	SU_TR	5.86	3.29
tblVehicleTrips	WD_TR	6.65	3.73
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWoodstoves	WoodstoveWoodMass	582.40	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.3673	3.4236	2.9912	7.7500e-003	0.3169	0.1390	0.4560	0.1038	0.1303	0.2341	0.0000	699.1806	699.1806	0.0940	0.0000	701.5314
2022	1.5650	0.1194	0.1591	2.9000e-004	6.1500e-003	5.9800e-003	0.0121	1.6400e-003	5.5900e-003	7.2300e-003	0.0000	25.0999	25.0999	5.4800e-003	0.0000	25.2369
Maximum	**1.5650**	**3.4236**	**2.9912**	**7.7500e-003**	**0.3169**	**0.1390**	**0.4560**	**0.1038**	**0.1303**	**0.2341**	**0.0000**	**699.1806**	**699.1806**	**0.0940**	**0.0000**	**701.5314**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.3673	3.4236	2.9912	7.7500e-003	0.3169	0.1390	0.4560	0.1038	0.1303	0.2341	0.0000	699.1802	699.1802	0.0940	0.0000	701.5310
2022	1.5650	0.1194	0.1591	2.9000e-004	6.1500e-003	5.9800e-003	0.0121	1.6400e-003	5.5900e-003	7.2300e-003	0.0000	25.0999	25.0999	5.4800e-003	0.0000	25.2369
Maximum	**1.5650**	**3.4236**	**2.9912**	**7.7500e-003**	**0.3169**	**0.1390**	**0.4560**	**0.1038**	**0.1303**	**0.2341**	**0.0000**	**699.1802**	**699.1802**	**0.0940**	**0.0000**	**701.5310**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)

1	**1-1-2021**	**3-31-2021**	1.3889	1.3889
2	**4-1-2021**	**6-30-2021**	0.8017	0.8017
3	**7-1-2021**	**9-30-2021**	0.8105	0.8105
4	**10-1-2021**	**12-31-2021**	0.8162	0.8162
5	**1-1-2022**	**3-31-2022**	1.7396	1.7396
		Highest	1.7396	1.7396

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.0593	0.0261	1.6173	1.3000e-004		9.5300e-003	9.5300e-003		9.5300e-003	9.5300e-003	0.0000	11.3057	11.3057	2.7100e-003	1.6000e-004	11.4208
Energy	0.0101	0.0864	0.0368	5.5000e-004		6.9800e-003	6.9800e-003		6.9800e-003	6.9800e-003	0.0000	302.3698	302.3698	0.0222	6.0200e-003	304.7176
Mobile	0.1684	0.6341	1.9791	7.1100e-003	0.6794	5.5300e-003	0.6850	0.1819	5.1500e-003	0.1870	0.0000	651.4133	651.4133	0.0208	0.0000	651.9325
Waste						0.0000	0.0000		0.0000	0.0000	20.2626	0.0000	20.2626	1.1975	0.0000	50.1996
Water						0.0000	0.0000		0.0000	0.0000	5.0022	14.1670	19.1692	0.0186	0.0112	22.9641
Total	**1.2378**	**0.7465**	**3.6332**	**7.7900e-003**	**0.6794**	**0.0220**	**0.7015**	**0.1819**	**0.0217**	**0.2035**	**25.2648**	**979.2559**	**1,004.5206**	**1.2617**	**0.0174**	**1,041.2346**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Area	1.0593	0.0261	1.6173	1.3000e-004		9.5300e-003	9.5300e-003		9.5300e-003	9.5300e-003	0.0000	11.3057	11.3057	2.7100e-003	1.6000e-004	11.4208
Energy	0.0101	0.0864	0.0368	5.5000e-004		6.9800e-003	6.9800e-003		6.9800e-003	6.9800e-003	0.0000	302.3698	302.3698	0.0222	6.0200e-003	304.7176
Mobile	0.1684	0.6341	1.9791	7.1100e-003	0.6794	5.5300e-003	0.6850	0.1819	5.1500e-003	0.1870	0.0000	651.4133	651.4133	0.0208	0.0000	651.9325
Waste						0.0000	0.0000		0.0000	0.0000	20.2626	0.0000	20.2626	1.1975	0.0000	50.1996
Water						0.0000	0.0000		0.0000	0.0000	5.0022	14.1670	19.1692	0.0186	0.0112	22.9641
Total	**1.2378**	**0.7465**	**3.6332**	**7.7900e-003**	**0.6794**	**0.0220**	**0.7015**	**0.1819**	**0.0217**	**0.2035**	**25.2648**	**979.2559**	**1,004.5206**	**1.2617**	**0.0174**	**1,041.2346**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2021	1/28/2021	5	20	
2	Site Preparation	Site Preparation	1/29/2021	2/4/2021	5	5	
3	Grading	Grading	2/5/2021	2/16/2021	5	8	
4	Building Construction	Building Construction	2/17/2021	1/4/2022	5	230	
5	Paving	Paving	1/5/2022	1/28/2022	5	18	
6	Architectural Coating	Architectural Coating	1/29/2022	2/23/2022	5	18	
7	Trenching	Trenching	2/5/2021	2/18/2021	5	10	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 4

Acres of Paving: 2.47

Residential Indoor: 439,425; Residential Outdoor: 146,475; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Trenching	Excavators	1	8.00	158	0.38
Trenching	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	59.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	2,719.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

Trenching	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	202.00	41.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	40.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.4000e-003	0.0000	6.4000e-003	9.7000e-004	0.0000	9.7000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0317	0.3144	0.2157	3.9000e-004		0.0155	0.0155		0.0144	0.0144	0.0000	34.0008	34.0008	9.5700e-003	0.0000	34.2400
Total	**0.0317**	**0.3144**	**0.2157**	**3.9000e-004**	**6.4000e-003**	**0.0155**	**0.0219**	**9.7000e-004**	**0.0144**	**0.0154**	**0.0000**	**34.0008**	**34.0008**	**9.5700e-003**	**0.0000**	**34.2400**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.3000e-004	7.8900e-003	1.7200e-003	2.0000e-005	5.0000e-004	2.0000e-005	5.2000e-004	1.4000e-004	2.0000e-005	1.6000e-004	0.0000	2.2215	2.2215	1.0000e-004	0.0000	2.2240
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.6000e-004	3.2000e-004	3.4300e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9848	0.9848	2.0000e-005	0.0000	0.9854

Total	**6.9000e-004**	**8.2100e-003**	**5.1500e-003**	**3.0000e-005**	**1.6900e-003**	**3.0000e-005**	**1.7200e-003**	**4.6000e-004**	**3.0000e-005**	**4.8000e-004**	**0.0000**	**3.2063**	**3.2063**	**1.2000e-004**	**0.0000**	**3.2093**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.4000e-003	0.0000	6.4000e-003	9.7000e-004	0.0000	9.7000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0317	0.3144	0.2157	3.9000e-004		0.0155	0.0155		0.0144	0.0144	0.0000	34.0007	34.0007	9.5700e-003	0.0000	34.2400
Total	**0.0317**	**0.3144**	**0.2157**	**3.9000e-004**	**6.4000e-003**	**0.0155**	**0.0219**	**9.7000e-004**	**0.0144**	**0.0154**	**0.0000**	**34.0007**	**34.0007**	**9.5700e-003**	**0.0000**	**34.2400**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.3000e-004	7.8900e-003	1.7200e-003	2.0000e-005	5.0000e-004	2.0000e-005	5.2000e-004	1.4000e-004	2.0000e-005	1.6000e-004	0.0000	2.2215	2.2215	1.0000e-004	0.0000	2.2240
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.6000e-004	3.2000e-004	3.4300e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9848	0.9848	2.0000e-005	0.0000	0.9854
Total	**6.9000e-004**	**8.2100e-003**	**5.1500e-003**	**3.0000e-005**	**1.6900e-003**	**3.0000e-005**	**1.7200e-003**	**4.6000e-004**	**3.0000e-005**	**4.8000e-004**	**0.0000**	**3.2063**	**3.2063**	**1.2000e-004**	**0.0000**	**3.2093**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0452	0.0000	0.0452	0.0248	0.0000	0.0248	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.7200e-003	0.1012	0.0529	1.0000e-004		5.1100e-003	5.1100e-003		4.7000e-003	4.7000e-003	0.0000	8.3589	8.3589	2.7000e-003	0.0000	8.4265
Total	**9.7200e-003**	**0.1012**	**0.0529**	**1.0000e-004**	**0.0452**	**5.1100e-003**	**0.0503**	**0.0248**	**4.7000e-003**	**0.0295**	**0.0000**	**8.3589**	**8.3589**	**2.7000e-003**	**0.0000**	**8.4265**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4000e-004	1.0000e-004	1.0300e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.2954	0.2954	1.0000e-005	0.0000	0.2956
Total	**1.4000e-004**	**1.0000e-004**	**1.0300e-003**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**9.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**	**0.2954**	**0.2954**	**1.0000e-005**	**0.0000**	**0.2956**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Fugitive Dust					0.0452	0.0000	0.0452	0.0248	0.0000	0.0248	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.7200e-003	0.1012	0.0529	1.0000e-004		5.1100e-003	5.1100e-003		4.7000e-003	4.7000e-003	0.0000	8.3589	8.3589	2.7000e-003	0.0000	8.4265
Total	**9.7200e-003**	**0.1012**	**0.0529**	**1.0000e-004**	**0.0452**	**5.1100e-003**	**0.0503**	**0.0248**	**4.7000e-003**	**0.0295**	**0.0000**	**8.3589**	**8.3589**	**2.7000e-003**	**0.0000**	**8.4265**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4000e-004	1.0000e-004	1.0300e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.2954	0.2954	1.0000e-005	0.0000	0.2956
Total	**1.4000e-004**	**1.0000e-004**	**1.0300e-003**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**9.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**	**0.2954**	**0.2954**	**1.0000e-005**	**0.0000**	**0.2956**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0262	0.0000	0.0262	0.0135	0.0000	0.0135	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.1600e-003	0.0990	0.0634	1.2000e-004		4.6400e-003	4.6400e-003		4.2700e-003	4.2700e-003	0.0000	10.4215	10.4215	3.3700e-003	0.0000	10.5057
Total	**9.1600e-003**	**0.0990**	**0.0634**	**1.2000e-004**	**0.0262**	**4.6400e-003**	**0.0309**	**0.0135**	**4.2700e-003**	**0.0177**	**0.0000**	**10.4215**	**10.4215**	**3.3700e-003**	**0.0000**	**10.5057**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0107	0.3636	0.0792	1.0600e-003	0.0231	1.1300e-003	0.0242	6.3400e-003	1.0900e-003	7.4200e-003	0.0000	102.3748	102.3748	4.6500e-003	0.0000	102.4910
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8000e-004	1.3000e-004	1.3700e-003	0.0000	4.8000e-004	0.0000	4.8000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.3939	0.3939	1.0000e-005	0.0000	0.3942
Total	**0.0108**	**0.3637**	**0.0806**	**1.0600e-003**	**0.0235**	**1.1300e-003**	**0.0247**	**6.4700e-003**	**1.0900e-003**	**7.5500e-003**	**0.0000**	**102.7688**	**102.7688**	**4.6600e-003**	**0.0000**	**102.8851**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0262	0.0000	0.0262	0.0135	0.0000	0.0135	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.1600e-003	0.0990	0.0634	1.2000e-004		4.6400e-003	4.6400e-003		4.2700e-003	4.2700e-003	0.0000	10.4215	10.4215	3.3700e-003	0.0000	10.5057
Total	**9.1600e-003**	**0.0990**	**0.0634**	**1.2000e-004**	**0.0262**	**4.6400e-003**	**0.0309**	**0.0135**	**4.2700e-003**	**0.0177**	**0.0000**	**10.4215**	**10.4215**	**3.3700e-003**	**0.0000**	**10.5057**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Hauling	0.0107	0.3636	0.0792	1.0600e-003	0.0231	1.1300e-003	0.0242	6.3400e-003	1.0900e-003	7.4200e-003	0.0000	102.3748	102.3748	4.6500e-003	0.0000	102.4910
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8000e-004	1.3000e-004	1.3700e-003	0.0000	4.8000e-004	0.0000	4.8000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.3939	0.3939	1.0000e-005	0.0000	0.3942
Total	**0.0108**	**0.3637**	**0.0806**	**1.0600e-003**	**0.0235**	**1.1300e-003**	**0.0247**	**6.4700e-003**	**1.0900e-003**	**7.5500e-003**	**0.0000**	**102.7688**	**102.7688**	**4.6600e-003**	**0.0000**	**102.8851**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2167	1.9873	1.8896	3.0700e-003		0.1093	0.1093		0.1028	0.1028	0.0000	264.0665	264.0665	0.0637	0.0000	265.6592
Total	**0.2167**	**1.9873**	**1.8896**	**3.0700e-003**		**0.1093**	**0.1093**		**0.1028**	**0.1028**	**0.0000**	**264.0665**	**264.0665**	**0.0637**	**0.0000**	**265.6592**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0152	0.4803	0.1279	1.2600e-003	0.0308	1.0600e-003	0.0318	8.8900e-003	1.0200e-003	9.9100e-003	0.0000	121.0703	121.0703	5.2800e-003	0.0000	121.2022
Worker	0.0709	0.0491	0.5268	1.6700e-003	0.1826	1.1500e-003	0.1838	0.0486	1.0600e-003	0.0496	0.0000	151.1885	151.1885	3.4400e-003	0.0000	151.2744

Total	**0.0862**	**0.5294**	**0.6546**	**2.9300e-003**	**0.2134**	**2.2100e-003**	**0.2156**	**0.0575**	**2.0800e-003**	**0.0595**	**0.0000**	**272.2588**	**272.2588**	**8.7200e-003**	**0.0000**	**272.4767**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2167	1.9873	1.8896	3.0700e-003		0.1093	0.1093		0.1028	0.1028	0.0000	264.0662	264.0662	0.0637	0.0000	265.6589
Total	**0.2167**	**1.9873**	**1.8896**	**3.0700e-003**		**0.1093**	**0.1093**		**0.1028**	**0.1028**	**0.0000**	**264.0662**	**264.0662**	**0.0637**	**0.0000**	**265.6589**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0152	0.4803	0.1279	1.2600e-003	0.0308	1.0600e-003	0.0318	8.8900e-003	1.0200e-003	9.9100e-003	0.0000	121.0703	121.0703	5.2800e-003	0.0000	121.2022
Worker	0.0709	0.0491	0.5268	1.6700e-003	0.1826	1.1500e-003	0.1838	0.0486	1.0600e-003	0.0496	0.0000	151.1885	151.1885	3.4400e-003	0.0000	151.2744
Total	**0.0862**	**0.5294**	**0.6546**	**2.9300e-003**	**0.2134**	**2.2100e-003**	**0.2156**	**0.0575**	**2.0800e-003**	**0.0595**	**0.0000**	**272.2588**	**272.2588**	**8.7200e-003**	**0.0000**	**272.4767**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.7100e-003	0.0156	0.0164	3.0000e-005		8.1000e-004	8.1000e-004		7.6000e-004	7.6000e-004	0.0000	2.3173	2.3173	5.6000e-004	0.0000	2.3311
Total	**1.7100e-003**	**0.0156**	**0.0164**	**3.0000e-005**		**8.1000e-004**	**8.1000e-004**		**7.6000e-004**	**7.6000e-004**	**0.0000**	**2.3173**	**2.3173**	**5.6000e-004**	**0.0000**	**2.3311**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.2000e-004	3.9800e-003	1.0600e-003	1.0000e-005	2.7000e-004	1.0000e-005	2.8000e-004	8.0000e-005	1.0000e-005	9.0000e-005	0.0000	1.0519	1.0519	4.0000e-005	0.0000	1.0530
Worker	5.8000e-004	3.9000e-004	4.2500e-003	1.0000e-005	1.6000e-003	1.0000e-005	1.6100e-003	4.3000e-004	1.0000e-005	4.4000e-004	0.0000	1.2780	1.2780	3.0000e-005	0.0000	1.2787
Total	**7.0000e-004**	**4.3700e-003**	**5.3100e-003**	**2.0000e-005**	**1.8700e-003**	**2.0000e-005**	**1.8900e-003**	**5.1000e-004**	**2.0000e-005**	**5.3000e-004**	**0.0000**	**2.3299**	**2.3299**	**7.0000e-005**	**0.0000**	**2.3317**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Off-Road	1.7100e-003	0.0156	0.0164	3.0000e-005		8.1000e-004	8.1000e-004		7.6000e-004	7.6000e-004	0.0000	2.3173	2.3173	5.6000e-004	0.0000	2.3311
Total	**1.7100e-003**	**0.0156**	**0.0164**	**3.0000e-005**		**8.1000e-004**	**8.1000e-004**		**7.6000e-004**	**7.6000e-004**	**0.0000**	**2.3173**	**2.3173**	**5.6000e-004**	**0.0000**	**2.3311**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.2000e-004	3.9800e-003	1.0600e-003	1.0000e-005	2.7000e-004	1.0000e-005	2.8000e-004	8.0000e-005	1.0000e-005	9.0000e-005	0.0000	1.0519	1.0519	4.0000e-005	0.0000	1.0530
Worker	5.8000e-004	3.9000e-004	4.2500e-003	1.0000e-005	1.6000e-003	1.0000e-005	1.6100e-003	4.3000e-004	1.0000e-005	4.4000e-004	0.0000	1.2780	1.2780	3.0000e-005	0.0000	1.2787
Total	**7.0000e-004**	**4.3700e-003**	**5.3100e-003**	**2.0000e-005**	**1.8700e-003**	**2.0000e-005**	**1.8900e-003**	**5.1000e-004**	**2.0000e-005**	**5.3000e-004**	**0.0000**	**2.3299**	**2.3299**	**7.0000e-005**	**0.0000**	**2.3317**

3.6 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.7900e-003	0.0857	0.1098	1.7000e-004		4.3900e-003	4.3900e-003		4.0500e-003	4.0500e-003	0.0000	14.7383	14.7383	4.6300e-003	0.0000	14.8540
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**8.7900e-003**	**0.0857**	**0.1098**	**1.7000e-004**		**4.3900e-003**	**4.3900e-003**		**4.0500e-003**	**4.0500e-003**	**0.0000**	**14.7383**	**14.7383**	**4.6300e-003**	**0.0000**	**14.8540**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.2000e-004	3.4000e-004	3.7800e-003	1.0000e-005	1.4300e-003	1.0000e-005	1.4400e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.1389	1.1389	2.0000e-005	0.0000	1.1395
Total	**5.2000e-004**	**3.4000e-004**	**3.7800e-003**	**1.0000e-005**	**1.4300e-003**	**1.0000e-005**	**1.4400e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.1389**	**1.1389**	**2.0000e-005**	**0.0000**	**1.1395**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.7900e-003	0.0857	0.1098	1.7000e-004		4.3900e-003	4.3900e-003		4.0500e-003	4.0500e-003	0.0000	14.7383	14.7383	4.6300e-003	0.0000	14.8540
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**8.7900e-003**	**0.0857**	**0.1098**	**1.7000e-004**		**4.3900e-003**	**4.3900e-003**		**4.0500e-003**	**4.0500e-003**	**0.0000**	**14.7383**	**14.7383**	**4.6300e-003**	**0.0000**	**14.8540**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.2000e-004	3.4000e-004	3.7800e-003	1.0000e-005	1.4300e-003	1.0000e-005	1.4400e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.1389	1.1389	2.0000e-005	0.0000	1.1395
Total	**5.2000e-004**	**3.4000e-004**	**3.7800e-003**	**1.0000e-005**	**1.4300e-003**	**1.0000e-005**	**1.4400e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.1389**	**1.1389**	**2.0000e-005**	**0.0000**	**1.1395**

3.7 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.5504					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.8400e-003	0.0127	0.0163	3.0000e-005		7.4000e-004	7.4000e-004		7.4000e-004	7.4000e-004	0.0000	2.2979	2.2979	1.5000e-004	0.0000	2.3017
Total	**1.5523**	**0.0127**	**0.0163**	**3.0000e-005**		**7.4000e-004**	**7.4000e-004**		**7.4000e-004**	**7.4000e-004**	**0.0000**	**2.2979**	**2.2979**	**1.5000e-004**	**0.0000**	**2.3017**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0400e-003	6.9000e-004	7.5700e-003	3.0000e-005	2.8600e-003	2.0000e-005	2.8700e-003	7.6000e-004	2.0000e-005	7.8000e-004	0.0000	2.2777	2.2777	5.0000e-005	0.0000	2.2789

Total	**1.0400e-003**	**6.9000e-004**	**7.5700e-003**	**3.0000e-005**	**2.8600e-003**	**2.0000e-005**	**2.8700e-003**	**7.6000e-004**	**2.0000e-005**	**7.8000e-004**	**0.0000**	**2.2777**	**2.2777**	**5.0000e-005**	**0.0000**	**2.2789**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.5504					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.8400e-003	0.0127	0.0163	3.0000e-005		7.4000e-004	7.4000e-004		7.4000e-004	7.4000e-004	0.0000	2.2979	2.2979	1.5000e-004	0.0000	2.3017
Total	**1.5523**	**0.0127**	**0.0163**	**3.0000e-005**		**7.4000e-004**	**7.4000e-004**		**7.4000e-004**	**7.4000e-004**	**0.0000**	**2.2979**	**2.2979**	**1.5000e-004**	**0.0000**	**2.3017**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0400e-003	6.9000e-004	7.5700e-003	3.0000e-005	2.8600e-003	2.0000e-005	2.8700e-003	7.6000e-004	2.0000e-005	7.8000e-004	0.0000	2.2777	2.2777	5.0000e-005	0.0000	2.2789
Total	**1.0400e-003**	**6.9000e-004**	**7.5700e-003**	**3.0000e-005**	**2.8600e-003**	**2.0000e-005**	**2.8700e-003**	**7.6000e-004**	**2.0000e-005**	**7.8000e-004**	**0.0000**	**2.2777**	**2.2777**	**5.0000e-005**	**0.0000**	**2.2789**

3.8 Trenching - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.0800e-003	0.0203	0.0277	4.0000e-005		1.0800e-003	1.0800e-003		9.9000e-004	9.9000e-004	0.0000	3.6395	3.6395	1.1800e-003	0.0000	3.6689
Total	**2.0800e-003**	**0.0203**	**0.0277**	**4.0000e-005**		**1.0800e-003**	**1.0800e-003**		**9.9000e-004**	**9.9000e-004**	**0.0000**	**3.6395**	**3.6395**	**1.1800e-003**	**0.0000**	**3.6689**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.0000e-005	5.0000e-005	5.7000e-004	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1641	0.1641	0.0000	0.0000	0.1642
Total	**8.0000e-005**	**5.0000e-005**	**5.7000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**2.0000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.1641**	**0.1641**	**0.0000**	**0.0000**	**0.1642**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Off-Road	2.0800e-003	0.0203	0.0277	4.0000e-005		1.0800e-003	1.0800e-003		9.9000e-004	9.9000e-004	0.0000	3.6395	3.6395	1.1800e-003	0.0000	3.6689
Total	**2.0800e-003**	**0.0203**	**0.0277**	**4.0000e-005**		**1.0800e-003**	**1.0800e-003**		**9.9000e-004**	**9.9000e-004**	**0.0000**	**3.6395**	**3.6395**	**1.1800e-003**	**0.0000**	**3.6689**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.0000e-005	5.0000e-005	5.7000e-004	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1641	0.1641	0.0000	0.0000	0.1642
Total	**8.0000e-005**	**5.0000e-005**	**5.7000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**2.0000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.1641**	**0.1641**	**0.0000**	**0.0000**	**0.1642**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1684	0.6341	1.9791	7.1100e-003	0.6794	5.5300e-003	0.6850	0.1819	5.1500e-003	0.1870	0.0000	651.4133	651.4133	0.0208	0.0000	651.9325

Unmitigated	0.1684	0.6341	1.9791	7.1100e-003	0.6794	5.5300e-003	0.6850	0.1819	5.1500e-003	0.1870	0.0000	651.4133	651.4133	0.0208	0.0000	651.9325

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	809.41	776.86	713.93	1,827,177	1,827,177
Enclosed Parking with Elevator	0.00	0.00	0.00		
Total	809.41	776.86	713.93	1,827,177	1,827,177

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.612822	0.036208	0.182365	0.105071	0.013933	0.005011	0.012748	0.021514	0.002168	0.001529	0.005280	0.000629	0.000720
Enclosed Parking with Elevator	0.612822	0.036208	0.182365	0.105071	0.013933	0.005011	0.012748	0.021514	0.002168	0.001529	0.005280	0.000629	0.000720

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	202.3255	202.3255	0.0202	4.1900e-003	204.0787
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	202.3255	202.3255	0.0202	4.1900e-003	204.0787
NaturalGas Mitigated	0.0101	0.0864	0.0368	5.5000e-004		6.9800e-003	6.9800e-003		6.9800e-003	6.9800e-003	0.0000	100.0444	100.0444	1.9200e-003	1.8300e-003	100.6389
NaturalGas Unmitigated	0.0101	0.0864	0.0368	5.5000e-004		6.9800e-003	6.9800e-003		6.9800e-003	6.9800e-003	0.0000	100.0444	100.0444	1.9200e-003	1.8300e-003	100.6389

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	1.87476e+006	0.0101	0.0864	0.0368	5.5000e-004		6.9800e-003	6.9800e-003		6.9800e-003	6.9800e-003	0.0000	100.0444	100.0444	1.9200e-003	1.8300e-003	100.6389
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0101**	**0.0864**	**0.0368**	**5.5000e-004**		**6.9800e-003**	**6.9800e-003**		**6.9800e-003**	**6.9800e-003**	**0.0000**	**100.0444**	**100.0444**	**1.9200e-003**	**1.8300e-003**	**100.6389**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	1.87476e+006	0.0101	0.0864	0.0368	5.5000e-004		6.9800e-003	6.9800e-003		6.9800e-003	6.9800e-003	0.0000	100.0444	100.0444	1.9200e-003	1.8300e-003	100.6389
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0101**	**0.0864**	**0.0368**	**5.5000e-004**		**6.9800e-003**	**6.9800e-003**		**6.9800e-003**	**6.9800e-003**	**0.0000**	**100.0444**	**100.0444**	**1.9200e-003**	**1.8300e-003**	**100.6389**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	895852	117.8420	0.0118	2.4400e-003	118.8631
Enclosed Parking with Elevator	642256	84.4835	8.4500e-003	1.7500e-003	85.2156
Total		**202.3255**	**0.0202**	**4.1900e-003**	**204.0787**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	895852	117.8420	0.0118	2.4400e-003	118.8631
Enclosed Parking with Elevator	642256	84.4835	8.4500e-003	1.7500e-003	85.2156
Total		**202.3255**	**0.0202**	**4.1900e-003**	**204.0787**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.0593	0.0261	1.6173	1.3000e-004		9.5300e-003	9.5300e-003		9.5300e-003	9.5300e-003	0.0000	11.3057	11.3057	2.7100e-003	1.6000e-004	11.4208
Unmitigated	1.0593	0.0261	1.6173	1.3000e-004		9.5300e-003	9.5300e-003		9.5300e-003	9.5300e-003	0.0000	11.3057	11.3057	2.7100e-003	1.6000e-004	11.4208

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1550					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.8546					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	8.8000e-004	7.4900e-003	3.1900e-003	5.0000e-005		6.1000e-004	6.1000e-004		6.1000e-004	6.1000e-004	0.0000	8.6688	8.6688	1.7000e-004	1.6000e-004	8.7204
Landscaping	0.0488	0.0186	1.6141	9.0000e-005		8.9300e-003	8.9300e-003		8.9300e-003	8.9300e-003	0.0000	2.6368	2.6368	2.5400e-003	0.0000	2.7004
Total	**1.0593**	**0.0261**	**1.6173**	**1.4000e-004**		**9.5400e-003**	**9.5400e-003**		**9.5400e-003**	**9.5400e-003**	**0.0000**	**11.3057**	**11.3057**	**2.7100e-003**	**1.6000e-004**	**11.4208**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1550					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.8546					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	8.8000e-004	7.4900e-003	3.1900e-003	5.0000e-005		6.1000e-004	6.1000e-004		6.1000e-004	6.1000e-004	0.0000	8.6688	8.6688	1.7000e-004	1.6000e-004	8.7204
Landscaping	0.0488	0.0186	1.6141	9.0000e-005		8.9300e-003	8.9300e-003		8.9300e-003	8.9300e-003	0.0000	2.6368	2.6368	2.5400e-003	0.0000	2.7004
Total	**1.0593**	**0.0261**	**1.6173**	**1.4000e-004**		**9.5400e-003**	**9.5400e-003**		**9.5400e-003**	**9.5400e-003**	**0.0000**	**11.3057**	**11.3057**	**2.7100e-003**	**1.6000e-004**	**11.4208**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	19.1692	0.0186	0.0112	22.9641
Unmitigated	19.1692	0.0186	0.0112	22.9641

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e

Land Use	Mgal	MT/yr			
Apartments Mid Rise	14.1384 / 8.91335	19.1692	0.0186	0.0112	22.9641
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**19.1692**	**0.0186**	**0.0112**	**22.9641**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	14.1384 / 8.91335	19.1692	0.0186	0.0112	22.9641
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**19.1692**	**0.0186**	**0.0112**	**22.9641**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	20.2626	1.1975	0.0000	50.1996

Unmitigated	20.2626	1.1975	0.0000	50.1996

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	99.82	20.2626	1.1975	0.0000	50.1996
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Total		**20.2626**	**1.1975**	**0.0000**	**50.1996**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	99.82	20.2626	1.1975	0.0000	50.1996
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Total		**20.2626**	**1.1975**	**0.0000**	**50.1996**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

15-084 Tamien TOD Phase 2 TAC Construction

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	274.00	Space	2.47	109,600.00	0
Apartments Mid Rise	217.00	Dwelling Unit	2.50	217,000.00	621

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2023
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E 2020 rate 290

Land Use - MR Phase 2: 217 units and 274 spaces in underground parking, default acreage for underground

Construction Phase - Default construction schedule, add trenching

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - Default equipment

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - trenching default equipment

Trips and VMT - TAC Trip length 1 mile

Demolition - Estimated child care square footage from 2015 report

Grading - 27500 cy of grading

Vehicle Trips - update with traffic trip generation rate

Woodstoves - all gas (70.08)

Energy Use -

Water And Wastewater - 100% aerobic

Construction Off-road Equipment Mitigation - BMPS, tier 2 lvl 3 mitigation

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	12.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
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tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblGrading	MaterialExported	0.00	27,500.00
tblLandUse	LotAcreage	5.71	2.50
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblTripsAndVMT	HaulingTripLength	20.00	1.00

tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					

2021	0.3036	2.9675	2.4895	4.4900e-003	0.1006	0.1362	0.2369	0.0455	0.1277	0.1732	0.0000	393.8065	393.8065	0.0865	0.0000	395.9695
2022	1.5635	0.1168	0.1471	2.3000e-004	5.9000e-004	5.9400e-003	6.5300e-003	1.6000e-004	5.5600e-003	5.7200e-003	0.0000	20.2386	20.2386	5.3800e-003	0.0000	20.3732
Maximum	**1.5635**	**2.9675**	**2.4895**	**4.4900e-003**	**0.1006**	**0.1362**	**0.2369**	**0.0455**	**0.1277**	**0.1732**	**0.0000**	**393.8065**	**393.8065**	**0.0865**	**0.0000**	**395.9695**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.1789	3.6838	2.6893	4.4900e-003	0.0579	0.0184	0.0763	0.0151	0.0184	0.0335	0.0000	393.8062	393.8062	0.0865	0.0000	395.9691
2022	1.5600	0.1923	0.1608	2.3000e-004	5.9000e-004	1.0300e-003	1.6200e-003	1.6000e-004	1.0300e-003	1.1900e-003	0.0000	20.2386	20.2386	5.3800e-003	0.0000	20.3732
Maximum	**1.5600**	**3.6838**	**2.6893**	**4.4900e-003**	**0.0579**	**0.0184**	**0.0763**	**0.0151**	**0.0184**	**0.0335**	**0.0000**	**393.8062**	**393.8062**	**0.0865**	**0.0000**	**395.9691**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**6.86**	**-25.67**	**-8.10**	**0.00**	**42.26**	**86.31**	**67.99**	**66.66**	**85.42**	**80.63**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2021	3-31-2021	1.0857	1.1543
2	4-1-2021	6-30-2021	0.7265	0.8988
3	7-1-2021	9-30-2021	0.7345	0.9087
4	10-1-2021	12-31-2021	0.7320	0.9062
5	1-1-2022	3-31-2022	1.7341	1.8068
		Highest	1.7341	1.8068

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.5591	0.0301	2.3036	1.4600e-003		0.1075	0.1075		0.1075	0.1075	9.8930	6.7004	16.5933	0.0184	6.5000e-004	17.2478
Energy	0.0101	0.0864	0.0368	5.5000e-004		6.9800e-003	6.9800e-003		6.9800e-003	6.9800e-003	0.0000	302.3698	302.3698	0.0222	6.0200e-003	304.7176
Mobile	0.3003	1.1305	3.5286	0.0127	1.2114	9.8600e-003	1.2212	0.3243	9.1800e-003	0.3334	0.0000	1,161.4149	1,161.4149	0.0370	0.0000	1,162.3405
Waste						0.0000	0.0000		0.0000	0.0000	20.2626	0.0000	20.2626	1.1975	0.0000	50.1996
Water						0.0000	0.0000		0.0000	0.0000	4.4855	14.1670	18.6525	0.4621	0.0112	33.5345
Total	**1.8695**	**1.2470**	**5.8689**	**0.0147**	**1.2114**	**0.1243**	**1.3357**	**0.3243**	**0.1237**	**0.4479**	**34.6410**	**1,484.6521**	**1,519.2931**	**1.7372**	**0.0178**	**1,568.0399**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.5591	0.0301	2.3036	1.4600e-003		0.1075	0.1075		0.1075	0.1075	9.8930	6.7004	16.5933	0.0184	6.5000e-004	17.2478
Energy	0.0101	0.0864	0.0368	5.5000e-004		6.9800e-003	6.9800e-003		6.9800e-003	6.9800e-003	0.0000	302.3698	302.3698	0.0222	6.0200e-003	304.7176
Mobile	0.3003	1.1305	3.5286	0.0127	1.2114	9.8600e-003	1.2212	0.3243	9.1800e-003	0.3334	0.0000	1,161.4149	1,161.4149	0.0370	0.0000	1,162.3405
Waste						0.0000	0.0000		0.0000	0.0000	20.2626	0.0000	20.2626	1.1975	0.0000	50.1996
Water						0.0000	0.0000		0.0000	0.0000	4.4855	14.1670	18.6525	0.4621	0.0112	33.5345
Total	**1.8695**	**1.2470**	**5.8689**	**0.0147**	**1.2114**	**0.1243**	**1.3357**	**0.3243**	**0.1237**	**0.4479**	**34.6410**	**1,484.6521**	**1,519.2931**	**1.7372**	**0.0178**	**1,568.0399**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2021	1/28/2021	5	20	
2	Site Preparation	Site Preparation	1/29/2021	2/4/2021	5	5	
3	Grading	Grading	2/5/2021	2/16/2021	5	8	
4	Trenching	Trenching	2/5/2021	2/18/2021	5	10	
5	Building Construction	Building Construction	2/17/2021	1/4/2022	5	230	
6	Paving	Paving	1/5/2022	1/28/2022	5	18	
7	Architectural Coating	Architectural Coating	1/29/2022	2/23/2022	5	18	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 4

Acres of Paving: 2.47

Residential Indoor: 439,425; Residential Outdoor: 146,475; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41

Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Trenching	Excavators	1	8.00	158	0.38
Trenching	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	59.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	2,719.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Trenching	2	5.00	0.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	202.00	41.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	40.00	0.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.4000e-003	0.0000	6.4000e-003	9.7000e-004	0.0000	9.7000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0317	0.3144	0.2157	3.9000e-004		0.0155	0.0155		0.0144	0.0144	0.0000	34.0008	34.0008	9.5700e-003	0.0000	34.2400
Total	**0.0317**	**0.3144**	**0.2157**	**3.9000e-004**	**6.4000e-003**	**0.0155**	**0.0219**	**9.7000e-004**	**0.0144**	**0.0154**	**0.0000**	**34.0008**	**34.0008**	**9.5700e-003**	**0.0000**	**34.2400**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.0000e-005	2.9300e-003	4.8000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.3791	0.3791	4.0000e-005	0.0000	0.3801
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.5000e-004	7.0000e-005	8.9000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1178	0.1178	0.0000	0.0000	0.1180
Total	**2.1000e-004**	**3.0000e-003**	**1.3700e-003**	**0.0000**	**1.4000e-004**	**0.0000**	**1.4000e-004**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**0.0000**	**0.4970**	**0.4970**	**4.0000e-005**	**0.0000**	**0.4980**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.8800e-003	0.0000	2.8800e-003	2.2000e-004	0.0000	2.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0126	0.3266	0.2467	3.9000e-004		1.3700e-003	1.3700e-003		1.3700e-003	1.3700e-003	0.0000	34.0007	34.0007	9.5700e-003	0.0000	34.2400
Total	**0.0126**	**0.3266**	**0.2467**	**3.9000e-004**	**2.8800e-003**	**1.3700e-003**	**4.2500e-003**	**2.2000e-004**	**1.3700e-003**	**1.5900e-003**	**0.0000**	**34.0007**	**34.0007**	**9.5700e-003**	**0.0000**	**34.2400**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.0000e-005	2.9300e-003	4.8000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.3791	0.3791	4.0000e-005	0.0000	0.3801
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.5000e-004	7.0000e-005	8.9000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1178	0.1178	0.0000	0.0000	0.1180
Total	**2.1000e-004**	**3.0000e-003**	**1.3700e-003**	**0.0000**	**1.4000e-004**	**0.0000**	**1.4000e-004**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**0.0000**	**0.4970**	**0.4970**	**4.0000e-005**	**0.0000**	**0.4980**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Fugitive Dust					0.0452	0.0000	0.0452	0.0248	0.0000	0.0248	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.7200e-003	0.1012	0.0529	1.0000e-004		5.1100e-003	5.1100e-003		4.7000e-003	4.7000e-003	0.0000	8.3589	8.3589	2.7000e-003	0.0000	8.4265
Total	**9.7200e-003**	**0.1012**	**0.0529**	**1.0000e-004**	**0.0452**	**5.1100e-003**	**0.0503**	**0.0248**	**4.7000e-003**	**0.0295**	**0.0000**	**8.3589**	**8.3589**	**2.7000e-003**	**0.0000**	**8.4265**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-005	2.0000e-005	2.7000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0354	0.0354	0.0000	0.0000	0.0354
Total	**5.0000e-005**	**2.0000e-005**	**2.7000e-004**	**0.0000**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0354**	**0.0354**	**0.0000**	**0.0000**	**0.0354**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0203	0.0000	0.0203	5.5900e-003	0.0000	5.5900e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.0200e-003	0.0843	0.0574	1.0000e-004		3.5000e-004	3.5000e-004		3.5000e-004	3.5000e-004	0.0000	8.3589	8.3589	2.7000e-003	0.0000	8.4265

Total	**3.0200e-003**	**0.0843**	**0.0574**	**1.0000e-004**	**0.0203**	**3.5000e-004**	**0.0207**	**5.5900e-003**	**3.5000e-004**	**5.9400e-003**	**0.0000**	**8.3589**	**8.3589**	**2.7000e-003**	**0.0000**	**8.4265**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-005	2.0000e-005	2.7000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0354	0.0354	0.0000	0.0000	0.0354
Total	**5.0000e-005**	**2.0000e-005**	**2.7000e-004**	**0.0000**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0354**	**0.0354**	**0.0000**	**0.0000**	**0.0354**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0262	0.0000	0.0262	0.0135	0.0000	0.0135	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.1600e-003	0.0990	0.0634	1.2000e-004		4.6400e-003	4.6400e-003		4.2700e-003	4.2700e-003	0.0000	10.4215	10.4215	3.3700e-003	0.0000	10.5057
Total	**9.1600e-003**	**0.0990**	**0.0634**	**1.2000e-004**	**0.0262**	**4.6400e-003**	**0.0309**	**0.0135**	**4.2700e-003**	**0.0177**	**0.0000**	**10.4215**	**10.4215**	**3.3700e-003**	**0.0000**	**10.5057**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.7700e-003	0.1349	0.0221	1.8000e-004	1.1800e-003	1.2000e-004	1.3000e-003	3.3000e-004	1.1000e-004	4.4000e-004	0.0000	17.4714	17.4714	1.7800e-003	0.0000	17.5160
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-005	3.0000e-005	3.5000e-004	0.0000	4.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0471	0.0471	0.0000	0.0000	0.0472
Total	**2.8300e-003**	**0.1349**	**0.0224**	**1.8000e-004**	**1.2200e-003**	**1.2000e-004**	**1.3500e-003**	**3.4000e-004**	**1.1000e-004**	**4.5000e-004**	**0.0000**	**17.5185**	**17.5185**	**1.7800e-003**	**0.0000**	**17.5631**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0118	0.0000	0.0118	3.0300e-003	0.0000	3.0300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.0400e-003	0.1051	0.0760	1.2000e-004		4.6000e-004	4.6000e-004		4.6000e-004	4.6000e-004	0.0000	10.4215	10.4215	3.3700e-003	0.0000	10.5057
Total	**4.0400e-003**	**0.1051**	**0.0760**	**1.2000e-004**	**0.0118**	**4.6000e-004**	**0.0123**	**3.0300e-003**	**4.6000e-004**	**3.4900e-003**	**0.0000**	**10.4215**	**10.4215**	**3.3700e-003**	**0.0000**	**10.5057**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Hauling	2.7700e-003	0.1349	0.0221	1.8000e-004	1.1800e-003	1.2000e-004	1.3000e-003	3.3000e-004	1.1000e-004	4.4000e-004	0.0000	17.4714	17.4714	1.7800e-003	0.0000	17.5160
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-005	3.0000e-005	3.5000e-004	0.0000	4.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0471	0.0471	0.0000	0.0000	0.0472
Total	**2.8300e-003**	**0.1349**	**0.0224**	**1.8000e-004**	**1.2200e-003**	**1.2000e-004**	**1.3500e-003**	**3.4000e-004**	**1.1000e-004**	**4.5000e-004**	**0.0000**	**17.5185**	**17.5185**	**1.7800e-003**	**0.0000**	**17.5631**

3.5 Trenching - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.0800e-003	0.0203	0.0277	4.0000e-005		1.0800e-003	1.0800e-003		9.9000e-004	9.9000e-004	0.0000	3.6337	3.6337	1.1800e-003	0.0000	3.6631
Total	**2.0800e-003**	**0.0203**	**0.0277**	**4.0000e-005**		**1.0800e-003**	**1.0800e-003**		**9.9000e-004**	**9.9000e-004**	**0.0000**	**3.6337**	**3.6337**	**1.1800e-003**	**0.0000**	**3.6631**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	1.0000e-005	1.5000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	1.0000e-005	0.0000	0.0196	0.0196	0.0000	0.0000	0.0197
Total	**3.0000e-005**	**1.0000e-005**	**1.5000e-004**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0196**	**0.0196**	**0.0000**	**0.0000**	**0.0197**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.7300e-003	0.0371	0.0313	4.0000e-005		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	3.6337	3.6337	1.1800e-003	0.0000	3.6631
Total	**1.7300e-003**	**0.0371**	**0.0313**	**4.0000e-005**		**1.9000e-004**	**1.9000e-004**		**1.9000e-004**	**1.9000e-004**	**0.0000**	**3.6337**	**3.6337**	**1.1800e-003**	**0.0000**	**3.6631**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	1.0000e-005	1.5000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	1.0000e-005	0.0000	0.0196	0.0196	0.0000	0.0000	0.0197
Total	**3.0000e-005**	**1.0000e-005**	**1.5000e-004**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0196**	**0.0196**	**0.0000**	**0.0000**	**0.0197**

3.6 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2167	1.9873	1.8896	3.0700e-003		0.1093	0.1093		0.1028	0.1028	0.0000	264.0665	264.0665	0.0637	0.0000	265.6592
Total	**0.2167**	**1.9873**	**1.8896**	**3.0700e-003**		**0.1093**	**0.1093**		**0.1028**	**0.1028**	**0.0000**	**264.0665**	**264.0665**	**0.0637**	**0.0000**	**265.6592**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.8900e-003	0.2972	0.0800	3.9000e-004	4.3200e-003	2.5000e-004	4.5700e-003	1.2600e-003	2.4000e-004	1.5000e-003	0.0000	37.1640	37.1640	3.4500e-003	0.0000	37.2502
Worker	0.0233	0.0103	0.1361	2.0000e-004	0.0171	2.3000e-004	0.0174	4.5800e-003	2.1000e-004	4.7900e-003	0.0000	18.0907	18.0907	7.1000e-004	0.0000	18.1085
Total	**0.0312**	**0.3075**	**0.2161**	**5.9000e-004**	**0.0214**	**4.8000e-004**	**0.0219**	**5.8400e-003**	**4.5000e-004**	**6.2900e-003**	**0.0000**	**55.2547**	**55.2547**	**4.1600e-003**	**0.0000**	**55.3587**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1232	2.6852	2.0376	3.0700e-003		0.0155	0.0155		0.0155	0.0155	0.0000	264.0662	264.0662	0.0637	0.0000	265.6589

Total	**0.1232**	**2.6852**	**2.0376**	**3.0700e-003**		**0.0155**	**0.0155**		**0.0155**	**0.0155**	**0.0000**	**264.0662**	**264.0662**	**0.0637**	**0.0000**	**265.6589**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.8900e-003	0.2972	0.0800	3.9000e-004	4.3200e-003	2.5000e-004	4.5700e-003	1.2600e-003	2.4000e-004	1.5000e-003	0.0000	37.1640	37.1640	3.4500e-003	0.0000	37.2502
Worker	0.0233	0.0103	0.1361	2.0000e-004	0.0171	2.3000e-004	0.0174	4.5800e-003	2.1000e-004	4.7900e-003	0.0000	18.0907	18.0907	7.1000e-004	0.0000	18.1085
Total	**0.0312**	**0.3075**	**0.2161**	**5.9000e-004**	**0.0214**	**4.8000e-004**	**0.0219**	**5.8400e-003**	**4.5000e-004**	**6.2900e-003**	**0.0000**	**55.2547**	**55.2547**	**4.1600e-003**	**0.0000**	**55.3587**

3.6 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.7100e-003	0.0156	0.0164	3.0000e-005		8.1000e-004	8.1000e-004		7.6000e-004	7.6000e-004	0.0000	2.3173	2.3173	5.6000e-004	0.0000	2.3311
Total	**1.7100e-003**	**0.0156**	**0.0164**	**3.0000e-005**		**8.1000e-004**	**8.1000e-004**		**7.6000e-004**	**7.6000e-004**	**0.0000**	**2.3173**	**2.3173**	**5.6000e-004**	**0.0000**	**2.3311**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.0000e-005	2.5200e-003	6.5000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.3231	0.3231	3.0000e-005	0.0000	0.3238
Worker	1.9000e-004	8.0000e-005	1.0800e-003	0.0000	1.5000e-004	0.0000	1.5000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1530	0.1530	1.0000e-005	0.0000	0.1532
Total	**2.5000e-004**	**2.6000e-003**	**1.7300e-003**	**0.0000**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.4761**	**0.4761**	**4.0000e-005**	**0.0000**	**0.4769**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.0800e-003	0.0236	0.0179	3.0000e-005		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004	0.0000	2.3173	2.3173	5.6000e-004	0.0000	2.3311
Total	**1.0800e-003**	**0.0236**	**0.0179**	**3.0000e-005**		**1.4000e-004**	**1.4000e-004**		**1.4000e-004**	**1.4000e-004**	**0.0000**	**2.3173**	**2.3173**	**5.6000e-004**	**0.0000**	**2.3311**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.0000e-005	2.5200e-003	6.5000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.3231	0.3231	3.0000e-005	0.0000	0.3238
Worker	1.9000e-004	8.0000e-005	1.0800e-003	0.0000	1.5000e-004	0.0000	1.5000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1530	0.1530	1.0000e-005	0.0000	0.1532
Total	**2.5000e-004**	**2.6000e-003**	**1.7300e-003**	**0.0000**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.4761**	**0.4761**	**4.0000e-005**	**0.0000**	**0.4769**

3.7 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.7900e-003	0.0857	0.1098	1.7000e-004		4.3900e-003	4.3900e-003		4.0500e-003	4.0500e-003	0.0000	14.7383	14.7383	4.6300e-003	0.0000	14.8540
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**8.7900e-003**	**0.0857**	**0.1098**	**1.7000e-004**		**4.3900e-003**	**4.3900e-003**		**4.0500e-003**	**4.0500e-003**	**0.0000**	**14.7383**	**14.7383**	**4.6300e-003**	**0.0000**	**14.8540**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7000e-004	7.0000e-005	9.6000e-004	0.0000	1.3000e-004	0.0000	1.4000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1364	0.1364	0.0000	0.0000	0.1365
Total	**1.7000e-004**	**7.0000e-005**	**9.6000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**1.4000e-004**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**0.0000**	**0.1364**	**0.1364**	**0.0000**	**0.0000**	**0.1365**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.7700e-003	0.1448	0.1218	1.7000e-004		7.6000e-004	7.6000e-004		7.6000e-004	7.6000e-004	0.0000	14.7383	14.7383	4.6300e-003	0.0000	14.8540
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.7700e-003**	**0.1448**	**0.1218**	**1.7000e-004**		**7.6000e-004**	**7.6000e-004**		**7.6000e-004**	**7.6000e-004**	**0.0000**	**14.7383**	**14.7383**	**4.6300e-003**	**0.0000**	**14.8540**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7000e-004	7.0000e-005	9.6000e-004	0.0000	1.3000e-004	0.0000	1.4000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1364	0.1364	0.0000	0.0000	0.1365
Total	**1.7000e-004**	**7.0000e-005**	**9.6000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**1.4000e-004**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**0.0000**	**0.1364**	**0.1364**	**0.0000**	**0.0000**	**0.1365**

3.8 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.5504					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.8400e-003	0.0127	0.0163	3.0000e-005		7.4000e-004	7.4000e-004		7.4000e-004	7.4000e-004	0.0000	2.2979	2.2979	1.5000e-004	0.0000	2.3017
Total	**1.5523**	**0.0127**	**0.0163**	**3.0000e-005**		**7.4000e-004**	**7.4000e-004**		**7.4000e-004**	**7.4000e-004**	**0.0000**	**2.2979**	**2.2979**	**1.5000e-004**	**0.0000**	**2.3017**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.3000e-004	1.4000e-004	1.9300e-003	0.0000	2.7000e-004	0.0000	2.7000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2727	0.2727	1.0000e-005	0.0000	0.2730
Total	**3.3000e-004**	**1.4000e-004**	**1.9300e-003**	**0.0000**	**2.7000e-004**	**0.0000**	**2.7000e-004**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**0.0000**	**0.2727**	**0.2727**	**1.0000e-005**	**0.0000**	**0.2730**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.5504					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Off-Road	1.0300e-003	0.0212	0.0165	3.0000e-005		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	2.2979	2.2979	1.5000e-004	0.0000	2.3017
Total	**1.5514**	**0.0212**	**0.0165**	**3.0000e-005**		**1.3000e-004**	**1.3000e-004**		**1.3000e-004**	**1.3000e-004**	**0.0000**	**2.2979**	**2.2979**	**1.5000e-004**	**0.0000**	**2.3017**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.3000e-004	1.4000e-004	1.9300e-003	0.0000	2.7000e-004	0.0000	2.7000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2727	0.2727	1.0000e-005	0.0000	0.2730
Total	**3.3000e-004**	**1.4000e-004**	**1.9300e-003**	**0.0000**	**2.7000e-004**	**0.0000**	**2.7000e-004**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**0.0000**	**0.2727**	**0.2727**	**1.0000e-005**	**0.0000**	**0.2730**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.3003	1.1305	3.5286	0.0127	1.2114	9.8600e-003	1.2212	0.3243	9.1800e-003	0.3334	0.0000	1,161.4149	1,161.4149	0.0370	0.0000	1,162.3405
Unmitigated	0.3003	1.1305	3.5286	0.0127	1.2114	9.8600e-003	1.2212	0.3243	9.1800e-003	0.3334	0.0000	1,161.4149	1,161.4149	0.0370	0.0000	1,162.3405

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	1,443.05	1,386.63	1271.62	3,257,701	3,257,701
Enclosed Parking with Elevator	0.00	0.00	0.00		
Total	1,443.05	1,386.63	1,271.62	3,257,701	3,257,701

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.612822	0.036208	0.182365	0.105071	0.013933	0.005011	0.012748	0.021514	0.002168	0.001529	0.005280	0.000629	0.000720
Enclosed Parking with Elevator	0.612822	0.036208	0.182365	0.105071	0.013933	0.005011	0.012748	0.021514	0.002168	0.001529	0.005280	0.000629	0.000720

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	202.3255	202.3255	0.0202	4.1900e-003	204.0787	
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	202.3255	202.3255	0.0202	4.1900e-003	204.0787	
NaturalGas Mitigated	0.0101	0.0864	0.0368	5.5000e-004		6.9800e-003	6.9800e-003		6.9800e-003	6.9800e-003	0.0000	100.0444	100.0444	1.9200e-003	1.8300e-003	100.6389	
NaturalGas Unmitigated	0.0101	0.0864	0.0368	5.5000e-004		6.9800e-003	6.9800e-003		6.9800e-003	6.9800e-003	0.0000	100.0444	100.0444	1.9200e-003	1.8300e-003	100.6389	

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	1.87476e+006	0.0101	0.0864	0.0368	5.5000e-004		6.9800e-003	6.9800e-003		6.9800e-003	6.9800e-003	0.0000	100.0444	100.0444	1.9200e-003	1.8300e-003	100.6389
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0101**	**0.0864**	**0.0368**	**5.5000e-004**		**6.9800e-003**	**6.9800e-003**		**6.9800e-003**	**6.9800e-003**	**0.0000**	**100.0444**	**100.0444**	**1.9200e-003**	**1.8300e-003**	**100.6389**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	1.87476e+006	0.0101	0.0864	0.0368	5.5000e-004		6.9800e-003	6.9800e-003		6.9800e-003	6.9800e-003	0.0000	100.0444	100.0444	1.9200e-003	1.8300e-003	100.6389
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0101**	**0.0864**	**0.0368**	**5.5000e-004**		**6.9800e-003**	**6.9800e-003**		**6.9800e-003**	**6.9800e-003**	**0.0000**	**100.0444**	**100.0444**	**1.9200e-003**	**1.8300e-003**	**100.6389**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	895852	117.8420	0.0118	2.4400e-003	118.8631
Enclosed Parking with Elevator	642256	84.4835	8.4500e-003	1.7500e-003	85.2156
Total		**202.3255**	**0.0202**	**4.1900e-003**	**204.0787**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	895852	117.8420	0.0118	2.4400e-003	118.8631
Enclosed Parking with Elevator	642256	84.4835	8.4500e-003	1.7500e-003	85.2156
Total		**202.3255**	**0.0202**	**4.1900e-003**	**204.0787**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.5591	0.0301	2.3036	1.4600e-003		0.1075	0.1075		0.1075	0.1075	9.8930	6.7004	16.5933	0.0184	6.5000e-004	17.2478
Unmitigated	1.5591	0.0301	2.3036	1.4600e-003		0.1075	0.1075		0.1075	0.1075	9.8930	6.7004	16.5933	0.0184	6.5000e-004	17.2478

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1550					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.8546					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.5007	0.0115	0.6895	1.3700e-003		0.0986	0.0986		0.0986	0.0986	9.8930	4.0635	13.9565	0.0159	6.5000e-004	14.5473
Landscaping	0.0488	0.0186	1.6141	9.0000e-005		8.9300e-003	8.9300e-003		8.9300e-003	8.9300e-003	0.0000	2.6368	2.6368	2.5400e-003	0.0000	2.7004
Total	**1.5591**	**0.0301**	**2.3036**	**1.4600e-003**		**0.1075**	**0.1075**		**0.1075**	**0.1075**	**9.8930**	**6.7004**	**16.5933**	**0.0184**	**6.5000e-004**	**17.2478**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1550					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Consumer Products	0.8546					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.5007	0.0115	0.6895	1.3700e-003		0.0986	0.0986		0.0986	0.0986	9.8930	4.0635	13.9565	0.0159	6.5000e-004	14.5473
Landscaping	0.0488	0.0186	1.6141	9.0000e-005		8.9300e-003	8.9300e-003		8.9300e-003	8.9300e-003	0.0000	2.6368	2.6368	2.5400e-003	0.0000	2.7004
Total	**1.5591**	**0.0301**	**2.3036**	**1.4600e-003**		**0.1075**	**0.1075**		**0.1075**	**0.1075**	**9.8930**	**6.7004**	**16.5933**	**0.0184**	**6.5000e-004**	**17.2478**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	18.6525	0.4621	0.0112	33.5345
Unmitigated	18.6525	0.4621	0.0112	33.5345

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	14.1384 / 8.91335	18.6525	0.4621	0.0112	33.5345
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000

Total		**18.6525**	**0.4621**	**0.0112**	**33.5345**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	14.1384 / 8.91335	18.6525	0.4621	0.0112	33.5345
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**18.6525**	**0.4621**	**0.0112**	**33.5345**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	20.2626	1.1975	0.0000	50.1996
Unmitigated	20.2626	1.1975	0.0000	50.1996

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	99.82	20.2626	1.1975	0.0000	50.1996
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Total		**20.2626**	**1.1975**	**0.0000**	**50.1996**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	99.82	20.2626	1.1975	0.0000	50.1996
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Total		**20.2626**	**1.1975**	**0.0000**	**50.1996**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

15-084 Tamien TOD Existing Use, 2023 - Santa Clara County, Annual

15-084 Tamien TOD Existing Use, 2023

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Day-Care Center	90.00	Student	0.12	5,087.06	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2023
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E 2020 rate 290

Land Use - Land Use based on 2015 run for Child Care Center

Construction Phase - No construction phases

Off-road Equipment - no construction equipment

Grading -

Vehicle Trips - weekday rate: 4.09, Sat: 0.36, Sun: 0.35

Water And Wastewater - 100% aerobic

Table Name	Column Name	Default Value	New Value
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblVehicleTrips	ST_TR	0.39	0.36
tblVehicleTrips	SU_TR	0.37	0.35
tblVehicleTrips	WD_TR	4.38	4.09
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					

2019	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0226	1.0000e-005	8.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.6100e-003	1.6100e-003	0.0000	0.0000	1.7100e-003
Energy	5.1000e-004	4.6000e-003	3.8600e-003	3.0000e-005		3.5000e-004	3.5000e-004		3.5000e-004	3.5000e-004	0.0000	8.6126	8.6126	4.6000e-004	1.7000e-004	8.6736
Mobile	0.0484	0.1647	0.4335	1.3300e-003	0.1191	1.1000e-003	0.1202	0.0319	1.0200e-003	0.0329	0.0000	121.9983	121.9983	4.5100e-003	0.0000	122.1111
Waste						0.0000	0.0000		0.0000	0.0000	3.3351	0.0000	3.3351	0.1971	0.0000	8.2627
Water						0.0000	0.0000		0.0000	0.0000	0.0772	0.4136	0.4908	3.1000e-004	1.8000e-004	0.5510
Total	**0.0715**	**0.1693**	**0.4382**	**1.3600e-003**	**0.1191**	**1.4500e-003**	**0.1206**	**0.0319**	**1.3700e-003**	**0.0333**	**3.4123**	**131.0261**	**134.4384**	**0.2024**	**3.5000e-004**	**139.6001**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0226	1.0000e-005	8.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.6100e-003	1.6100e-003	0.0000	0.0000	1.7100e-003
Energy	5.1000e-004	4.6000e-003	3.8600e-003	3.0000e-005		3.5000e-004	3.5000e-004		3.5000e-004	3.5000e-004	0.0000	8.6126	8.6126	4.6000e-004	1.7000e-004	8.6736
Mobile	0.0484	0.1647	0.4335	1.3300e-003	0.1191	1.1000e-003	0.1202	0.0319	1.0200e-003	0.0329	0.0000	121.9983	121.9983	4.5100e-003	0.0000	122.1111
Waste						0.0000	0.0000		0.0000	0.0000	3.3351	0.0000	3.3351	0.1971	0.0000	8.2627
Water						0.0000	0.0000		0.0000	0.0000	0.0772	0.4136	0.4908	3.1000e-004	1.8000e-004	0.5510
Total	**0.0715**	**0.1693**	**0.4382**	**1.3600e-003**	**0.1191**	**1.4500e-003**	**0.1206**	**0.0319**	**1.3700e-003**	**0.0333**	**3.4123**	**131.0261**	**134.4384**	**0.2024**	**3.5000e-004**	**139.6001**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/15/2019	1/15/2019	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	0	8.00	187	0.41

Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0484	0.1647	0.4335	1.3300e-003	0.1191	1.1000e-003	0.1202	0.0319	1.0200e-003	0.0329	0.0000	121.9983	121.9983	4.5100e-003	0.0000	122.1111
Unmitigated	0.0484	0.1647	0.4335	1.3300e-003	0.1191	1.1000e-003	0.1202	0.0319	1.0200e-003	0.0329	0.0000	121.9983	121.9983	4.5100e-003	0.0000	122.1111

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Day-Care Center	368.10	32.40	31.50	320,382	320,382
Total	368.10	32.40	31.50	320,382	320,382

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-...	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Day-Care Center	9.50	7.30	7.30	12.70	82.30	5.00	28	58	14

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Day-Care Center	0.612822	0.036208	0.182365	0.105071	0.013933	0.005011	0.012748	0.021514	0.002168	0.001529	0.005280	0.000629	0.000720

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	3.6068	3.6068	3.6000e-004	7.0000e-005	3.6380
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	3.6068	3.6068	3.6000e-004	7.0000e-005	3.6380
NaturalGas Mitigated	5.1000e-004	4.6000e-003	3.8600e-003	3.0000e-005		3.5000e-004	3.5000e-004		3.5000e-004	3.5000e-004	0.0000	5.0058	5.0058	1.0000e-004	9.0000e-005	5.0356
NaturalGas Unmitigated	5.1000e-004	4.6000e-003	3.8600e-003	3.0000e-005		3.5000e-004	3.5000e-004		3.5000e-004	3.5000e-004	0.0000	5.0058	5.0058	1.0000e-004	9.0000e-005	5.0356

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Day-Care Center	93805.4	5.1000e-004	4.6000e-003	3.8600e-003	3.0000e-005		3.5000e-004	3.5000e-004		3.5000e-004	3.5000e-004	0.0000	5.0058	5.0058	1.0000e-004	9.0000e-005	5.0356
Total		**5.1000e-004**	**4.6000e-003**	**3.8600e-003**	**3.0000e-005**		**3.5000e-004**	**3.5000e-004**		**3.5000e-004**	**3.5000e-004**	**0.0000**	**5.0058**	**5.0058**	**1.0000e-004**	**9.0000e-005**	**5.0356**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Day-Care Center	93805.4	5.1000e-004	4.6000e-003	3.8600e-003	3.0000e-005		3.5000e-004	3.5000e-004		3.5000e-004	3.5000e-004	0.0000	5.0058	5.0058	1.0000e-004	9.0000e-005	5.0356
Total		**5.1000e-004**	**4.6000e-003**	**3.8600e-003**	**3.0000e-005**		**3.5000e-004**	**3.5000e-004**		**3.5000e-004**	**3.5000e-004**	**0.0000**	**5.0058**	**5.0058**	**1.0000e-004**	**9.0000e-005**	**5.0356**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Day-Care Center	27419.3	3.6068	3.6000e-004	7.0000e-005	3.6380
Total		**3.6068**	**3.6000e-004**	**7.0000e-005**	**3.6380**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Day-Care Center	27419.3	3.6068	3.6000e-004	7.0000e-005	3.6380

Total		**3.6068**	**3.6000e-004**	**7.0000e-005**	**3.6380**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0226	1.0000e-005	8.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.6100e-003	1.6100e-003	0.0000	0.0000	1.7100e-003
Unmitigated	0.0226	1.0000e-005	8.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.6100e-003	1.6100e-003	0.0000	0.0000	1.7100e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	2.6500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0199					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	8.0000e-005	1.0000e-005	8.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.6100e-003	1.6100e-003	0.0000	0.0000	1.7100e-003

Total	**0.0226**	**1.0000e-005**	**8.3000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.6100e-003**	**1.6100e-003**	**0.0000**	**0.0000**	**1.7100e-003**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	2.6500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0199					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	8.0000e-005	1.0000e-005	8.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.6100e-003	1.6100e-003	0.0000	0.0000	1.7100e-003
Total	**0.0226**	**1.0000e-005**	**8.3000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.6100e-003**	**1.6100e-003**	**0.0000**	**0.0000**	**1.7100e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.4908	3.1000e-004	1.8000e-004	0.5510
Unmitigated	0.4908	3.1000e-004	1.8000e-004	0.5510

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Day-Care Center	0.218182 / 0.561038	0.4908	3.1000e-004	1.8000e-004	0.5510
Total		**0.4908**	**3.1000e-004**	**1.8000e-004**	**0.5510**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Day-Care Center	0.218182 / 0.561038	0.4908	3.1000e-004	1.8000e-004	0.5510
Total		**0.4908**	**3.1000e-004**	**1.8000e-004**	**0.5510**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	3.3351	0.1971	0.0000	8.2627
Unmitigated	3.3351	0.1971	0.0000	8.2627

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Day-Care Center	16.43	3.3351	0.1971	0.0000	8.2627
Total		**3.3351**	**0.1971**	**0.0000**	**8.2627**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Day-Care Center	16.43	3.3351	0.1971	0.0000	8.2627

Total		**3.3351**	**0.1971**	**0.0000**	**8.2627**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

15-084 Tamien TOD Existing Use, 2030 - Santa Clara County, Annual

15-084 Tamien TOD Existing Use, 2030

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Day-Care Center	90.00	Student	0.12	5,087.06	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2030
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E 2020 rate 290

Land Use - Land Use based on 2015 run for Child Care Center

Construction Phase - No construction phases

Off-road Equipment - no construction equipment

Grading -

Vehicle Trips - weekday rate: 4.09, Sat: 0.36, Sun: 0.35

Water And Wastewater - 100% aerobic

Table Name	Column Name	Default Value	New Value
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblVehicleTrips	ST_TR	0.39	0.36
tblVehicleTrips	SU_TR	0.37	0.35
tblVehicleTrips	WD_TR	4.38	4.09
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					

2019	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0226	1.0000e-005	8.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.6100e-003	1.6100e-003	0.0000	0.0000	1.7100e-003
Energy	5.1000e-004	4.6000e-003	3.8600e-003	3.0000e-005		3.5000e-004	3.5000e-004		3.5000e-004	3.5000e-004	0.0000	8.6126	8.6126	4.6000e-004	1.7000e-004	8.6736
Mobile	0.0335	0.1399	0.2943	1.1000e-003	0.1191	7.9000e-004	0.1199	0.0319	7.4000e-004	0.0326	0.0000	101.7543	101.7543	3.3400e-003	0.0000	101.8377
Waste						0.0000	0.0000		0.0000	0.0000	3.3351	0.0000	3.3351	0.1971	0.0000	8.2627
Water						0.0000	0.0000		0.0000	0.0000	0.0772	0.4136	0.4908	3.1000e-004	1.8000e-004	0.5510
Total	**0.0566**	**0.1445**	**0.2989**	**1.1300e-003**	**0.1191**	**1.1400e-003**	**0.1203**	**0.0319**	**1.0900e-003**	**0.0330**	**3.4123**	**110.7821**	**114.1944**	**0.2012**	**3.5000e-004**	**119.3267**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0226	1.0000e-005	8.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.6100e-003	1.6100e-003	0.0000	0.0000	1.7100e-003
Energy	5.1000e-004	4.6000e-003	3.8600e-003	3.0000e-005		3.5000e-004	3.5000e-004		3.5000e-004	3.5000e-004	0.0000	8.6126	8.6126	4.6000e-004	1.7000e-004	8.6736
Mobile	0.0335	0.1399	0.2943	1.1000e-003	0.1191	7.9000e-004	0.1199	0.0319	7.4000e-004	0.0326	0.0000	101.7543	101.7543	3.3400e-003	0.0000	101.8377
Waste						0.0000	0.0000		0.0000	0.0000	3.3351	0.0000	3.3351	0.1971	0.0000	8.2627
Water						0.0000	0.0000		0.0000	0.0000	0.0772	0.4136	0.4908	3.1000e-004	1.8000e-004	0.5510
Total	**0.0566**	**0.1445**	**0.2989**	**1.1300e-003**	**0.1191**	**1.1400e-003**	**0.1203**	**0.0319**	**1.0900e-003**	**0.0330**	**3.4123**	**110.7821**	**114.1944**	**0.2012**	**3.5000e-004**	**119.3267**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/15/2019	1/15/2019	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	0	8.00	187	0.41

Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0335	0.1399	0.2943	1.1000e-003	0.1191	7.9000e-004	0.1199	0.0319	7.4000e-004	0.0326	0.0000	101.7543	101.7543	3.3400e-003	0.0000	101.8377
Unmitigated	0.0335	0.1399	0.2943	1.1000e-003	0.1191	7.9000e-004	0.1199	0.0319	7.4000e-004	0.0326	0.0000	101.7543	101.7543	3.3400e-003	0.0000	101.8377

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Day-Care Center	368.10	32.40	31.50	320,382	320,382
Total	368.10	32.40	31.50	320,382	320,382

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-...	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Day-Care Center	9.50	7.30	7.30	12.70	82.30	5.00	28	58	14

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Day-Care Center	0.621541	0.034056	0.180136	0.101248	0.011859	0.005060	0.013110	0.022881	0.002221	0.001470	0.005122	0.000646	0.000651

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	3.6068	3.6068	3.6000e-004	7.0000e-005	3.6380
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	3.6068	3.6068	3.6000e-004	7.0000e-005	3.6380
NaturalGas Mitigated	5.1000e-004	4.6000e-003	3.8600e-003	3.0000e-005		3.5000e-004	3.5000e-004		3.5000e-004	3.5000e-004	0.0000	5.0058	5.0058	1.0000e-004	9.0000e-005	5.0356
NaturalGas Unmitigated	5.1000e-004	4.6000e-003	3.8600e-003	3.0000e-005		3.5000e-004	3.5000e-004		3.5000e-004	3.5000e-004	0.0000	5.0058	5.0058	1.0000e-004	9.0000e-005	5.0356

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Day-Care Center	93805.4	5.1000e-004	4.6000e-003	3.8600e-003	3.0000e-005		3.5000e-004	3.5000e-004		3.5000e-004	3.5000e-004	0.0000	5.0058	5.0058	1.0000e-004	9.0000e-005	5.0356
Total		**5.1000e-004**	**4.6000e-003**	**3.8600e-003**	**3.0000e-005**		**3.5000e-004**	**3.5000e-004**		**3.5000e-004**	**3.5000e-004**	**0.0000**	**5.0058**	**5.0058**	**1.0000e-004**	**9.0000e-005**	**5.0356**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Day-Care Center	93805.4	5.1000e-004	4.6000e-003	3.8600e-003	3.0000e-005		3.5000e-004	3.5000e-004		3.5000e-004	3.5000e-004	0.0000	5.0058	5.0058	1.0000e-004	9.0000e-005	5.0356
Total		**5.1000e-004**	**4.6000e-003**	**3.8600e-003**	**3.0000e-005**		**3.5000e-004**	**3.5000e-004**		**3.5000e-004**	**3.5000e-004**	**0.0000**	**5.0058**	**5.0058**	**1.0000e-004**	**9.0000e-005**	**5.0356**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Day-Care Center	27419.3	3.6068	3.6000e-004	7.0000e-005	3.6380
Total		**3.6068**	**3.6000e-004**	**7.0000e-005**	**3.6380**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Day-Care Center	27419.3	3.6068	3.6000e-004	7.0000e-005	3.6380

Total		**3.6068**	**3.6000e-004**	**7.0000e-005**	**3.6380**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0226	1.0000e-005	8.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.6100e-003	1.6100e-003	0.0000	0.0000	1.7100e-003
Unmitigated	0.0226	1.0000e-005	8.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.6100e-003	1.6100e-003	0.0000	0.0000	1.7100e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	2.6500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0199					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	8.0000e-005	1.0000e-005	8.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.6100e-003	1.6100e-003	0.0000	0.0000	1.7100e-003

Total	**0.0226**	**1.0000e-005**	**8.2000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.6100e-003**	**1.6100e-003**	**0.0000**	**0.0000**	**1.7100e-003**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	2.6500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0199					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	8.0000e-005	1.0000e-005	8.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.6100e-003	1.6100e-003	0.0000	0.0000	1.7100e-003
Total	**0.0226**	**1.0000e-005**	**8.2000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.6100e-003**	**1.6100e-003**	**0.0000**	**0.0000**	**1.7100e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.4908	3.1000e-004	1.8000e-004	0.5510
Unmitigated	0.4908	3.1000e-004	1.8000e-004	0.5510

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Day-Care Center	0.218182 / 0.561038	0.4908	3.1000e-004	1.8000e-004	0.5510
Total		**0.4908**	**3.1000e-004**	**1.8000e-004**	**0.5510**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Day-Care Center	0.218182 / 0.561038	0.4908	3.1000e-004	1.8000e-004	0.5510
Total		**0.4908**	**3.1000e-004**	**1.8000e-004**	**0.5510**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	3.3351	0.1971	0.0000	8.2627
Unmitigated	3.3351	0.1971	0.0000	8.2627

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Day-Care Center	16.43	3.3351	0.1971	0.0000	8.2627
Total		**3.3351**	**0.1971**	**0.0000**	**8.2627**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Day-Care Center	16.43	3.3351	0.1971	0.0000	8.2627

Total		**3.3351**	**0.1971**	**0.0000**	**8.2627**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

15-084 Tamien TOD Operational GHG, 2023 - Santa Clara County, Annual

15-084 Tamien TOD Operational GHG, 2023

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Day-Care Center	90.00	Student	0.00	3,000.00	0
Enclosed Parking with Elevator	744.00	Space	6.70	297,600.00	0
Apartments Mid Rise	569.00	Dwelling Unit	6.96	569,000.00	1627

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2023
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E 2020 rate 290

Land Use - Operational use of project site, 569 apts & child care center (3,000-sqft)

Construction Phase - operational run, only one day of site prep

Off-road Equipment - no construction equipment, operational run

Vehicle Trips - apts weekday: 3.73 with reductions, sat: 3.58, sun: 3.29 --> daycare weekday: 4.09, sat: 0.36, sun: 0.35

Woodstoves - all gas (182.08)

Water And Wastewater - 100% aerobic

Energy Use -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	1.00
tblConstructionPhase	PhaseEndDate	1/14/2021	1/1/2021
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberGas	85.35	182.08
tblFireplaces	NumberWood	96.73	0.00
tblLandUse	LandUseSquareFeet	5,087.06	3,000.00
tblLandUse	LotAcreage	0.12	0.00
tblLandUse	LotAcreage	14.97	6.96
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblTripsAndVMT	WorkerTripNumber	0.00	18.00
tblVehicleTrips	ST_TR	6.39	3.58
tblVehicleTrips	ST_TR	0.39	0.36
tblVehicleTrips	SU_TR	5.86	3.29
tblVehicleTrips	SU_TR	0.37	0.35
tblVehicleTrips	WD_TR	6.65	3.73
tblVehicleTrips	WD_TR	4.38	4.09
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercept	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercept	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercept	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWoodstoves	WoodstoveWoodMass	582.40	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	3.0000e-005	2.0000e-005	2.1000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0591	0.0591	0.0000	0.0000	0.0591
Maximum	**3.0000e-005**	**2.0000e-005**	**2.1000e-004**	**0.0000**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0591**	**0.0591**	**0.0000**	**0.0000**	**0.0591**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	3.0000e-005	2.0000e-005	2.1000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0591	0.0591	0.0000	0.0000	0.0591
Maximum	**3.0000e-005**	**2.0000e-005**	**2.1000e-004**	**0.0000**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0591**	**0.0591**	**0.0000**	**0.0000**	**0.0591**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)

1	**1-1-2021**	**3-31-2021**	0.0000	0.0000
		Highest	0.0000	0.0000

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.7918	0.0684	4.2419	3.5000e-004		0.0250	0.0250		0.0250	0.0250	0.0000	29.6469	29.6469	7.1100e-003	4.2000e-004	29.9489
Energy	0.0268	0.2292	0.0987	1.4600e-003		0.0185	0.0185		0.0185	0.0185	0.0000	805.8037	805.8037	0.0591	0.0161	812.0640
Mobile	0.4900	1.8272	5.6230	0.0200	1.9007	0.0156	1.9163	0.5088	0.0145	0.5233	0.0000	1,830.0821	1,830.0821	0.0590	0.0000	1,831.5562
Waste						0.0000	0.0000		0.0000	0.0000	56.4660	0.0000	56.4660	3.3370	0.0000	139.8921
Water						0.0000	0.0000		0.0000	0.0000	13.1936	37.5612	50.7548	0.0492	0.0295	60.7656
Total	**3.3086**	**2.1249**	**9.9635**	**0.0218**	**1.9007**	**0.0591**	**1.9598**	**0.5088**	**0.0580**	**0.5668**	**69.6596**	**2,703.0939**	**2,772.7534**	**3.5114**	**0.0459**	**2,874.2269**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.7918	0.0684	4.2419	3.5000e-004		0.0250	0.0250		0.0250	0.0250	0.0000	29.6469	29.6469	7.1100e-003	4.2000e-004	29.9489
Energy	0.0268	0.2292	0.0987	1.4600e-003		0.0185	0.0185		0.0185	0.0185	0.0000	805.8037	805.8037	0.0591	0.0161	812.0640
Mobile	0.4900	1.8272	5.6230	0.0200	1.9007	0.0156	1.9163	0.5088	0.0145	0.5233	0.0000	1,830.0821	1,830.0821	0.0590	0.0000	1,831.5562

Waste						0.0000	0.0000		0.0000	0.0000	56.4660	0.0000	56.4660	3.3370	0.0000	139.8921
Water						0.0000	0.0000		0.0000	0.0000	13.1936	37.5612	50.7548	0.0492	0.0295	60.7656
Total	**3.3086**	**2.1249**	**9.9635**	**0.0218**	**1.9007**	**0.0591**	**1.9598**	**0.5088**	**0.0580**	**0.5668**	**69.6596**	**2,703.0939**	**2,772.7534**	**3.5114**	**0.0459**	**2,874.2269**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2021	1/1/2021	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 6.7

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	0	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	0	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	2.0000e-005	2.1000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0591	0.0591	0.0000	0.0000	0.0591
Total	**3.0000e-005**	**2.0000e-005**	**2.1000e-004**	**0.0000**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0591**	**0.0591**	**0.0000**	**0.0000**	**0.0591**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	2.0000e-005	2.1000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0591	0.0591	0.0000	0.0000	0.0591
Total	**3.0000e-005**	**2.0000e-005**	**2.1000e-004**	**0.0000**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0591**	**0.0591**	**0.0000**	**0.0000**	**0.0591**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Mitigated	0.4900	1.8272	5.6230	0.0200	1.9007	0.0156	1.9163	0.5088	0.0145	0.5233	0.0000	1,830.0821	1,830.0821	0.0590	0.0000	1,831.5562
Unmitigated	0.4900	1.8272	5.6230	0.0200	1.9007	0.0156	1.9163	0.5088	0.0145	0.5233	0.0000	1,830.0821	1,830.0821	0.0590	0.0000	1,831.5562

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	2,122.37	2,037.02	1872.01	4,791,076	4,791,076
Enclosed Parking with Elevator	0.00	0.00	0.00		
Day-Care Center	368.10	32.40	31.50	320,382	320,382
Total	2,490.47	2,069.42	1,903.51	5,111,458	5,111,458

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Day-Care Center	9.50	7.30	7.30	12.70	82.30	5.00	28	58	14

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.612822	0.036208	0.182365	0.105071	0.013933	0.005011	0.012748	0.021514	0.002168	0.001529	0.005280	0.000629	0.000720
Enclosed Parking with Elevator	0.612822	0.036208	0.182365	0.105071	0.013933	0.005011	0.012748	0.021514	0.002168	0.001529	0.005280	0.000629	0.000720
Day-Care Center	0.612822	0.036208	0.182365	0.105071	0.013933	0.005011	0.012748	0.021514	0.002168	0.001529	0.005280	0.000629	0.000720

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	540.5232	540.5232	0.0541	0.0112	545.2072
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	540.5232	540.5232	0.0541	0.0112	545.2072
NaturalGas Mitigated	0.0268	0.2292	0.0987	1.4600e-003		0.0185	0.0185		0.0185	0.0185	0.0000	265.2804	265.2804	5.0800e-003	4.8600e-003	266.8568
NaturalGas Unmitigated	0.0268	0.2292	0.0987	1.4600e-003		0.0185	0.0185		0.0185	0.0185	0.0000	265.2804	265.2804	5.0800e-003	4.8600e-003	266.8568

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	4.91585e+006	0.0265	0.2265	0.0964	1.4500e-003		0.0183	0.0183		0.0183	0.0183	0.0000	262.3283	262.3283	5.0300e-003	4.8100e-003	263.8872
Day-Care Center	55320	3.0000e-004	2.7100e-003	2.2800e-003	2.0000e-005		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004	0.0000	2.9521	2.9521	6.0000e-005	5.0000e-005	2.9696
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0268**	**0.2292**	**0.0987**	**1.4700e-003**		**0.0185**	**0.0185**		**0.0185**	**0.0185**	**0.0000**	**265.2804**	**265.2804**	**5.0900e-003**	**4.8600e-003**	**266.8568**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	4.91585e+006	0.0265	0.2265	0.0964	1.4500e-003		0.0183	0.0183		0.0183	0.0183	0.0000	262.3283	262.3283	5.0300e-003	4.8100e-003	263.8872
Day-Care Center	55320	3.0000e-004	2.7100e-003	2.2800e-003	2.0000e-005		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004	0.0000	2.9521	2.9521	6.0000e-005	5.0000e-005	2.9696
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0268**	**0.2292**	**0.0987**	**1.4700e-003**		**0.0185**	**0.0185**		**0.0185**	**0.0185**	**0.0000**	**265.2804**	**265.2804**	**5.0900e-003**	**4.8600e-003**	**266.8568**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	2.34903e+006	308.9958	0.0309	6.3900e-003	311.6734
Day-Care Center	16170	2.1270	2.1000e-004	4.0000e-005	2.1455
Enclosed Parking with Elevator	1.74394e+006	229.4005	0.0229	4.7500e-003	231.3883
Total		**540.5233**	**0.0541**	**0.0112**	**545.2072**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	2.34903e+006	308.9958	0.0309	6.3900e-003	311.6734

Day-Care Center	16170	2.1270	2.1000e-004	4.0000e-005	2.1455
Enclosed Parking with Elevator	1.74394e+006	229.4005	0.0229	4.7500e-003	231.3883
Total		**540.5233**	**0.0541**	**0.0112**	**545.2072**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.7918	0.0684	4.2419	3.5000e-004		0.0250	0.0250		0.0250	0.0250	0.0000	29.6469	29.6469	7.1100e-003	4.2000e-004	29.9489
Unmitigated	2.7918	0.0684	4.2419	3.5000e-004		0.0250	0.0250		0.0250	0.0250	0.0000	29.6469	29.6469	7.1100e-003	4.2000e-004	29.9489

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.4083					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.2532					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Hearth	2.3000e-003	0.0196	8.3500e-003	1.3000e-004		1.5900e-003	1.5900e-003		1.5900e-003	1.5900e-003	0.0000	22.7307	22.7307	4.4000e-004	4.2000e-004	22.8658
Landscaping	0.1280	0.0488	4.2335	2.2000e-004		0.0234	0.0234		0.0234	0.0234	0.0000	6.9162	6.9162	6.6800e-003	0.0000	7.0831
Total	**2.7918**	**0.0684**	**4.2418**	**3.5000e-004**		**0.0250**	**0.0250**		**0.0250**	**0.0250**	**0.0000**	**29.6469**	**29.6469**	**7.1200e-003**	**4.2000e-004**	**29.9489**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.4083					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.2532					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	2.3000e-003	0.0196	8.3500e-003	1.3000e-004		1.5900e-003	1.5900e-003		1.5900e-003	1.5900e-003	0.0000	22.7307	22.7307	4.4000e-004	4.2000e-004	22.8658
Landscaping	0.1280	0.0488	4.2335	2.2000e-004		0.0234	0.0234		0.0234	0.0234	0.0000	6.9162	6.9162	6.6800e-003	0.0000	7.0831
Total	**2.7918**	**0.0684**	**4.2418**	**3.5000e-004**		**0.0250**	**0.0250**		**0.0250**	**0.0250**	**0.0000**	**29.6469**	**29.6469**	**7.1200e-003**	**4.2000e-004**	**29.9489**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	50.7548	0.0492	0.0295	60.7656

Unmitigated	50.7548	0.0492	0.0295	60.7656

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	37.0726 / 23.3719	50.2640	0.0489	0.0293	60.2146
Day-Care Center	0.218182 / 0.561038	0.4908	3.1000e-004	1.8000e-004	0.5510
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**50.7548**	**0.0492**	**0.0295**	**60.7656**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	37.0726 / 23.3719	50.2640	0.0489	0.0293	60.2146
Day-Care Center	0.218182 / 0.561038	0.4908	3.1000e-004	1.8000e-004	0.5510
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**50.7548**	**0.0492**	**0.0295**	**60.7656**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	56.4660	3.3370	0.0000	139.8921
Unmitigated	56.4660	3.3370	0.0000	139.8921

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	261.74	53.1309	3.1399	0.0000	131.6294
Day-Care Center	16.43	3.3351	0.1971	0.0000	8.2627
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Total		**56.4660**	**3.3370**	**0.0000**	**139.8921**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	261.74	53.1309	3.1399	0.0000	131.6294
Day-Care Center	16.43	3.3351	0.1971	0.0000	8.2627
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Total		**56.4660**	**3.3370**	**0.0000**	**139.8921**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

15-084 Tamien TOD Operational GHG, 2023 - Santa Clara County, Annual

15-084 Tamien TOD Operational GHG, 2030

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Day-Care Center	90.00	Student	0.00	3,000.00	0
Enclosed Parking with Elevator	744.00	Space	6.70	297,600.00	0
Apartments Mid Rise	569.00	Dwelling Unit	6.96	569,000.00	1627

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2030
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E 2020 rate 290

Land Use - Operational use of project site, 569 apts & child care center (3,000-sqft)

Construction Phase - operational run, only one day of site prep

Off-road Equipment - no construction equipment, operational run

Vehicle Trips - apts weekday: 3.73 with reductions, sat: 3.58, sun: 3.29 --> daycare weekday: 4.09, sat: 0.36, sun: 0.35

Woodstoves - all gas (182.08)

Water And Wastewater - 100% aerobic

Energy Use -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	1.00
tblConstructionPhase	PhaseEndDate	1/14/2021	1/1/2021
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberGas	85.35	182.08
tblFireplaces	NumberWood	96.73	0.00
tblLandUse	LandUseSquareFeet	5,087.06	3,000.00
tblLandUse	LotAcreage	0.12	0.00
tblLandUse	LotAcreage	14.97	6.96
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblTripsAndVMT	WorkerTripNumber	0.00	18.00
tblVehicleTrips	ST_TR	6.39	3.58
tblVehicleTrips	ST_TR	0.39	0.36
tblVehicleTrips	SU_TR	5.86	3.29
tblVehicleTrips	SU_TR	0.37	0.35
tblVehicleTrips	WD_TR	6.65	3.73
tblVehicleTrips	WD_TR	4.38	4.09
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercept	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercept	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercept	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWoodstoves	WoodstoveWoodMass	582.40	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	3.0000e-005	2.0000e-005	2.1000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0591	0.0591	0.0000	0.0000	0.0591
Maximum	**3.0000e-005**	**2.0000e-005**	**2.1000e-004**	**0.0000**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0591**	**0.0591**	**0.0000**	**0.0000**	**0.0591**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	3.0000e-005	2.0000e-005	2.1000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0591	0.0591	0.0000	0.0000	0.0591
Maximum	**3.0000e-005**	**2.0000e-005**	**2.1000e-004**	**0.0000**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0591**	**0.0591**	**0.0000**	**0.0000**	**0.0591**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)

1	1-1-2021	3-31-2021	0.0000	0.0000
		Highest	0.0000	0.0000

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.7905	0.0683	4.2297	3.5000e-004		0.0250	0.0250		0.0250	0.0250	0.0000	29.6469	29.6469	7.0500e-003	4.2000e-004	29.9473
Energy	0.0268	0.2292	0.0987	1.4600e-003		0.0185	0.0185		0.0185	0.0185	0.0000	805.8037	805.8037	0.0591	0.0161	812.0640
Mobile	0.3438	1.4801	3.8669	0.0165	1.9003	0.0111	1.9114	0.5085	0.0103	0.5189	0.0000	1,518.3169	1,518.3169	0.0441	0.0000	1,519.4189
Waste						0.0000	0.0000		0.0000	0.0000	56.4660	0.0000	56.4660	3.3370	0.0000	139.8921
Water						0.0000	0.0000		0.0000	0.0000	13.1936	37.5612	50.7548	0.0492	0.0295	60.7656
Total	**3.1612**	**1.7776**	**8.1953**	**0.0183**	**1.9003**	**0.0547**	**1.9549**	**0.5085**	**0.0539**	**0.5624**	**69.6596**	**2,391.3287**	**2,460.9883**	**3.4965**	**0.0459**	**2,562.0880**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.7905	0.0683	4.2297	3.5000e-004		0.0250	0.0250		0.0250	0.0250	0.0000	29.6469	29.6469	7.0500e-003	4.2000e-004	29.9473
Energy	0.0268	0.2292	0.0987	1.4600e-003		0.0185	0.0185		0.0185	0.0185	0.0000	805.8037	805.8037	0.0591	0.0161	812.0640
Mobile	0.3438	1.4801	3.8669	0.0165	1.9003	0.0111	1.9114	0.5085	0.0103	0.5189	0.0000	1,518.3169	1,518.3169	0.0441	0.0000	1,519.4189

Waste						0.0000	0.0000		0.0000	0.0000	56.4660	0.0000	56.4660	3.3370	0.0000	139.8921
Water						0.0000	0.0000		0.0000	0.0000	13.1936	37.5612	50.7548	0.0492	0.0295	60.7656
Total	**3.1612**	**1.7776**	**8.1953**	**0.0183**	**1.9003**	**0.0547**	**1.9549**	**0.5085**	**0.0539**	**0.5624**	**69.6596**	**2,391.3287**	**2,460.9883**	**3.4965**	**0.0459**	**2,562.0880**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2021	1/1/2021	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 6.7

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	0	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	0	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	2.0000e-005	2.1000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0591	0.0591	0.0000	0.0000	0.0591
Total	**3.0000e-005**	**2.0000e-005**	**2.1000e-004**	**0.0000**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0591**	**0.0591**	**0.0000**	**0.0000**	**0.0591**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	2.0000e-005	2.1000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0591	0.0591	0.0000	0.0000	0.0591
Total	**3.0000e-005**	**2.0000e-005**	**2.1000e-004**	**0.0000**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0591**	**0.0591**	**0.0000**	**0.0000**	**0.0591**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Mitigated	0.3438	1.4801	3.8669	0.0165	1.9003	0.0111	1.9114	0.5085	0.0103	0.5189	0.0000	1,518.3169	1,518.3169	0.0441	0.0000	1,519.4189
Unmitigated	0.3438	1.4801	3.8669	0.0165	1.9003	0.0111	1.9114	0.5085	0.0103	0.5189	0.0000	1,518.3169	1,518.3169	0.0441	0.0000	1,519.4189

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	2,122.37	2,037.02	1872.01	4,791,076	4,791,076
Enclosed Parking with Elevator	0.00	0.00	0.00		
Day-Care Center	368.10	32.40	31.50	320,382	320,382
Total	2,490.47	2,069.42	1,903.51	5,111,458	5,111,458

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Day-Care Center	9.50	7.30	7.30	12.70	82.30	5.00	28	58	14

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.621541	0.034056	0.180136	0.101248	0.011859	0.005060	0.013110	0.022881	0.002221	0.001470	0.005122	0.000646	0.000651
Enclosed Parking with Elevator	0.621541	0.034056	0.180136	0.101248	0.011859	0.005060	0.013110	0.022881	0.002221	0.001470	0.005122	0.000646	0.000651
Day-Care Center	0.621541	0.034056	0.180136	0.101248	0.011859	0.005060	0.013110	0.022881	0.002221	0.001470	0.005122	0.000646	0.000651

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	540.5232	540.5232	0.0541	0.0112	545.2072
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	540.5232	540.5232	0.0541	0.0112	545.2072
NaturalGas Mitigated	0.0268	0.2292	0.0987	1.4600e-003		0.0185	0.0185		0.0185	0.0185	0.0000	265.2804	265.2804	5.0800e-003	4.8600e-003	266.8568
NaturalGas Unmitigated	0.0268	0.2292	0.0987	1.4600e-003		0.0185	0.0185		0.0185	0.0185	0.0000	265.2804	265.2804	5.0800e-003	4.8600e-003	266.8568

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	4.91585e+006	0.0265	0.2265	0.0964	1.4500e-003		0.0183	0.0183		0.0183	0.0183	0.0000	262.3283	262.3283	5.0300e-003	4.8100e-003	263.8872
Day-Care Center	55320	3.0000e-004	2.7100e-003	2.2800e-003	2.0000e-005		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004	0.0000	2.9521	2.9521	6.0000e-005	5.0000e-005	2.9696
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0268**	**0.2292**	**0.0987**	**1.4700e-003**		**0.0185**	**0.0185**		**0.0185**	**0.0185**	**0.0000**	**265.2804**	**265.2804**	**5.0900e-003**	**4.8600e-003**	**266.8568**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	4.91585e+006	0.0265	0.2265	0.0964	1.4500e-003		0.0183	0.0183		0.0183	0.0183	0.0000	262.3283	262.3283	5.0300e-003	4.8100e-003	263.8872
Day-Care Center	55320	3.0000e-004	2.7100e-003	2.2800e-003	2.0000e-005		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004	0.0000	2.9521	2.9521	6.0000e-005	5.0000e-005	2.9696
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0268**	**0.2292**	**0.0987**	**1.4700e-003**		**0.0185**	**0.0185**		**0.0185**	**0.0185**	**0.0000**	**265.2804**	**265.2804**	**5.0900e-003**	**4.8600e-003**	**266.8568**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	2.34903e+006	308.9958	0.0309	6.3900e-003	311.6734
Day-Care Center	16170	2.1270	2.1000e-004	4.0000e-005	2.1455
Enclosed Parking with Elevator	1.74394e+006	229.4005	0.0229	4.7500e-003	231.3883
Total		**540.5233**	**0.0541**	**0.0112**	**545.2072**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	2.34903e+006	308.9958	0.0309	6.3900e-003	311.6734

Day-Care Center	16170	2.1270	2.1000e-004	4.0000e-005	2.1455
Enclosed Parking with Elevator	1.74394e+006	229.4005	0.0229	4.7500e-003	231.3883
Total		**540.5233**	**0.0541**	**0.0112**	**545.2072**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.7905	0.0683	4.2297	3.5000e-004		0.0250	0.0250		0.0250	0.0250	0.0000	29.6469	29.6469	7.0500e-003	4.2000e-004	29.9473
Unmitigated	2.7905	0.0683	4.2297	3.5000e-004		0.0250	0.0250		0.0250	0.0250	0.0000	29.6469	29.6469	7.0500e-003	4.2000e-004	29.9473

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.4083					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.2532					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Hearth	2.3000e-003	0.0196	8.3500e-003	1.3000e-004		1.5900e-003	1.5900e-003		1.5900e-003	1.5900e-003	0.0000	22.7307	22.7307	4.4000e-004	4.2000e-004	22.8658
Landscaping	0.1267	0.0487	4.2214	2.2000e-004		0.0235	0.0235		0.0235	0.0235	0.0000	6.9162	6.9162	6.6100e-003	0.0000	7.0815
Total	**2.7905**	**0.0683**	**4.2297**	**3.5000e-004**		**0.0251**	**0.0251**		**0.0251**	**0.0251**	**0.0000**	**29.6469**	**29.6469**	**7.0500e-003**	**4.2000e-004**	**29.9474**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.4083					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.2532					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	2.3000e-003	0.0196	8.3500e-003	1.3000e-004		1.5900e-003	1.5900e-003		1.5900e-003	1.5900e-003	0.0000	22.7307	22.7307	4.4000e-004	4.2000e-004	22.8658
Landscaping	0.1267	0.0487	4.2214	2.2000e-004		0.0235	0.0235		0.0235	0.0235	0.0000	6.9162	6.9162	6.6100e-003	0.0000	7.0815
Total	**2.7905**	**0.0683**	**4.2297**	**3.5000e-004**		**0.0251**	**0.0251**		**0.0251**	**0.0251**	**0.0000**	**29.6469**	**29.6469**	**7.0500e-003**	**4.2000e-004**	**29.9474**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	50.7548	0.0492	0.0295	60.7656

Unmitigated	50.7548	0.0492	0.0295	60.7656

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	37.0726 / 23.3719	50.2640	0.0489	0.0293	60.2146
Day-Care Center	0.218182 / 0.561038	0.4908	3.1000e-004	1.8000e-004	0.5510
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**50.7548**	**0.0492**	**0.0295**	**60.7656**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	37.0726 / 23.3719	50.2640	0.0489	0.0293	60.2146
Day-Care Center	0.218182 / 0.561038	0.4908	3.1000e-004	1.8000e-004	0.5510
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**50.7548**	**0.0492**	**0.0295**	**60.7656**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	56.4660	3.3370	0.0000	139.8921
Unmitigated	56.4660	3.3370	0.0000	139.8921

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	261.74	53.1309	3.1399	0.0000	131.6294
Day-Care Center	16.43	3.3351	0.1971	0.0000	8.2627
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Total		**56.4660**	**3.3370**	**0.0000**	**139.8921**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	261.74	53.1309	3.1399	0.0000	131.6294
Day-Care Center	16.43	3.3351	0.1971	0.0000	8.2627
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Total		**56.4660**	**3.3370**	**0.0000**	**139.8921**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Attachment 3: Construction Health Risk Calculations

Tamien TOD Residential Project (Phase 1), San Jose, CA

DPM Emissions and Modeling Emission Rates - Unmitigated

Construction Year	Activity	DPM (ton/year)	Area Source	DPM Emissions (lb/yr)	DPM Emissions (lb/hr)	DPM Emissions (g/s)	Modeled Area (m^2)	DPM Emission Rate ($g/s/m^2$)
2020-2021	Construction	0.2113	CON_DPM	422.6	0.12865	1.62E-02	18083.4	8.96E-07

Construction Hours

hr/day =	9	(7am - 4pm)
days/yr =	365	
hours/year =	3285	

PM2.5 Fugitive Dust Emissions for Modeling - Unmitigated

Construction Year	Activity	Area Source	PM2.5 Emissions (ton/year)	PM2.5 Emissions (lb/yr)	PM2.5 Emissions (lb/hr)	PM2.5 Emissions (g/s)	Modeled Area (m^2)	PM2.5 Emission Rate $g/s/m^2$
2020-2021	Construction	CON_FUG	0.1884	376.7	0.11468	1.45E-02	18,083	7.99E-07

Construction Hours

hr/day =	9	(7am - 4pm)
days/yr =	365	
hours/year =	3285	

DPM Construction Emissions and Modeling Emission Rates - With Mitigation

Construction Year	Activity	DPM (ton/year)	Area Source	DPM Emissions (lb/yr)	DPM Emissions (lb/hr)	DPM Emissions (g/s)	Modeled Area (m^2)	DPM Emission Rate ($g/s/m^2$)
2020-2021	Construction	0.0308	CON_DPM	61.6	0.01875	2.36E-03	18083.4	1.31E-07

Construction Hours

hr/day =	10	(7am - 4pm)
days/yr =	365	
hours/year =	3285	

PM2.5 Fugitive Dust Construction Emissions for Modeling - With Mitigation

Construction Year	Activity	Area Source	PM2.5 Emissions (ton/year)	PM2.5 Emissions (lb/yr)	PM2.5 Emissions (lb/hr)	PM2.5 Emissions (g/s)	Modeled Area (m^2)	PM2.5 Emission Rate $g/s/m^2$
2020-2021	Construction	CON_FUG	0.12377	247.5	0.07535	9.49E-03	18,083	5.25E-07

Construction Hours

hr/day =	9	(7am - 4pm)
days/yr =	365	
hours/year =	3285	

Tamien TOD Residential Project (Phase 2), San Jose, CA

DPM Emissions and Modeling Emission Rates - Unmitigated

Construction Year	Activity	DPM (ton/year)	Area Source	DPM Emissions (lb/yr)	(lb/hr)	(g/s)	Modeled Area (m^2)	DPM Emission Rate ($g/s/m^2$)
2021-2022	Construction	0.1421	CON_DPM	284.3	0.08654	1.09E-02	9313.219	1.17E-06

Construction Hours
hr/day = 9 (7am - 4pm)
days/yr = 365
hours/year = 3285

PM2.5 Fugitive Dust Emissions for Modeling - Unmitigated

Construction Year	Activity	Area Source	PM2.5 Emissions (ton/year)	(lb/yr)	(lb/hr)	(g/s)	Modeled Area (m^2)	PM2.5 Emission Rate $g/s/m^2$
2021-2022	Construction	CON_FUG	0.0457	91.3	0.02780	3.50E-03	9,313	3.76E-07

Construction Hours
hr/day = 9 (7am - 4pm)
days/yr = 365
hours/year = 3285

DPM Construction Emissions and Modeling Emission Rates - With Mitigation

Construction Year	Activity	DPM (ton/year)	Area Source	DPM Emissions (lb/yr)	(lb/hr)	(g/s)	Modeled Area (m^2)	DPM Emission Rate ($g/s/m^2$)
2021-2022	Construction	0.0194	CON_DPM	38.9	0.01183	1.49E-03	9313.219	1.60E-07

Construction Hours
hr/day = 10 (7am - 4pm)
days/yr = 365
hours/year = 3285

PM2.5 Fugitive Dust Construction Emissions for Modeling - With Mitigation

Construction Year	Activity	Area Source	PM2.5 Emissions (ton/year)	(lb/yr)	(lb/hr)	(g/s)	Modeled Area (m^2)	PM2.5 Emission Rate $g/s/m^2$
2021-2022	Construction	CON_FUG	0.01526	30.5	0.00929	1.17E-03	9,313	1.26E-07

Construction Hours
hr/day = 9 (7am - 4pm)
days/yr = 365
hours/year = 3285

Tamien TOD Residential Project Offsite MEI, San Jose, CA - Construction Health

Maximum Impacts at MEI Location - Unmitigated

Emissions Year	Maximum Concentrations: Exhaust PM10/DPM ($\mu g/m^3$)	Maximum Concentrations: Fugitive PM2.5 ($\mu g/m^3$)	Cancer Risk (per million): Infant/Child	Cancer Risk (per million): Adult	Hazard Index (-)	Maximum Annual PM2.5 Concentration ($\mu g/m^3$)
2019-2022	0.2295	0.2426	**43.7**	**1.3**	**0.046**	**0.47**

Maximum Impacts at MEI Location - With Mitigation

Emissions Year	Maximum Concentrations: Exhaust PM10/DPM ($\mu g/m^3$)	Maximum Concentrations: Fugitive PM2.5 ($\mu g/m^3$)	Cancer Risk (per million): Infant/Child	Cancer Risk (per million): Adult	Hazard Index (-)	Maximum Annual PM2.5 Concentration ($\mu g/m^3$)
2019-2022	0.0336	0.1594	**6.3**	**0.2**	**0.007**	**0.19**

Tamien TOD Residential Project (Phase 2), San Jose, CA - Construction Health Im

Maximum Impacts at Onsite MEI Location - Unmitigated

Emissions Year	Maximum Concentrations: Exhaust PM10/DPM ($\mu g/m^3$)	Maximum Concentrations: Fugitive PM2.5 ($\mu g/m^3$)	Cancer Risk (per million): Infant/Child	Cancer Risk (per million): Adult	Hazard Index (-)	Maximum Annual PM2.5 Concentration ($\mu g/m^3$)
2021-2022	0.3093	0.0994	**50.8**	**0.9**	**0.062**	**0.41**

Maximum Impacts at Onsite MEI Location - With Mitigation

Emissions Year	Maximum Concentrations: Exhaust PM10/DPM ($\mu g/m^3$)	Maximum Concentrations: Fugitive PM2.5 ($\mu g/m^3$)	Cancer Risk (per million): Infant/Child	Cancer Risk (per million): Adult	Hazard Index (-)	Maximum Annual PM2.5 Concentration ($\mu g/m^3$)
2021-2022	0.0423	0.0333	**6.9**	**0.1**	**0.008**	**0.08**

Tamien TOD Residential Project, San Jose, CA - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Off-Site MEI Location - 1.5 meter receptor height

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air ($\mu g/m^3$)
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

	Infant/Child				Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 9**	**2 - 16**	**16 - 30**
Parameter					
ASF =	10	10	3	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00	1.10E+00	1.10E+00
DBR* =	361	1090	631	572	261
A =	1	1	1	1	1
EF =	350	350	350	350	350
AT =	70	70	70	70	70
FAH =	1.00	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

			Infant/Child - Exposure Information				Adult - Exposure Information				Maximum	
							Modeled					
Exposure Year	**Exposure Duration (years)**	**Age**	**DPM Conc (ug/m3) Year**	**DPM Conc (ug/m3) Annual**	**Age Sensitivity Factor**	**Infant/Child Cancer Risk (per million)**	**DPM Conc (ug/m3) Year**	**DPM Conc (ug/m3) Annual**	**Age Sensitivity Factor**	**Adult Cancer Risk (per million)**	**Fugitive PM2.5**	**Total PM2.5**
0	0.25	-0.25 - 0*	-	-	10	-	-	-	-	-		
1	1	0 - 1	2019	0.2295	10	37.69	2019	0.2295	1	0.66	0.2426	0.4705
2	1	1 - 2	2020	0.0000	10	0.00	2020	0.0000	1	0.00		
3	1	2 - 3	2021	0.2101	3	5.99	2021	0.2101	1	0.60	0.0720	0.2821
4	1	3 - 4	2022		3	0.00	2022		1	0.00		
5	1	4 - 5	2023		3	0.00	2023		1	0.00		
6	1	5 - 6	2024		3	0.00	2024		1	0.00		
7	1	6 - 7	2025		3	0.00	2025		1	0.00		
8	1	7 - 8	2026		3	0.00	2026		1	0.00		
9	1	8 - 9	2027		3	0.00	2027		1	0.00		
10	1	9 - 10	2028		3	0.00	2028		1	0.00		
11	1	10 - 11	2029		3	0.00	2029		1	0.00		
12	1	11 - 12	2030		3	0.00	2030		1	0.00		
13	1	12 - 13	2031		3	0.00	2031		1	0.00		
14	1	13 - 14	2032		3	0.00	2032		1	0.00		
15	1	14 - 15	2033		3	0.00	2033		1	0.00		
16	1	15 - 16	2034		3	0.00	2034		1	0.00		
17	1	16-17	2035		1	0.00	2035		1	0.00		
18	1	17-18	2036		1	0.00	2036		1	0.00		
19	1	18-19	2037		1	0.00	2037		1	0.00		
20	1	19-20	2038		1	0.00	2038		1	0.00		
21	1	20-21	2039		1	0.00	2039		1	0.00		
22	1	21-22	2040		1	0.00	2040		1	0.00		
23	1	22-23	2041		1	0.00	2041		1	0.00		
24	1	23-24	2042		1	0.00	2042		1	0.00		
25	1	24-25	2043		1	0.00	2043		1	0.00		
26	1	25-26	2044		1	0.00	2044		1	0.00		
27	1	26-27	2045		1	0.00	2045		1	0.00		
28	1	27-28	2046		1	0.00	2046		1	0.00		
29	1	28-29	2047		1	0.00	2047		1	0.00		
30	1	29-30	2048		1	0.00	2048		1	0.00		
Total Increased Cancer Risk						**43.7**				**1.26**		

* Third trimester of pregnancy

Tamien TOD Residential Project, San Jose, CA - Construction Impacts - With Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Off-Site MEI Location - 1.5 meter receptor height

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air ($\mu g/m^3$)
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

	Infant/Child				Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 9**	**2 - 16**	**16 - 30**
Parameter					
ASF =	10	10	3	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00	1.10E+00	1.10E+00
DBR* =	361	1090	631	572	261
A =	1	1	1	1	1
EF =	350	350	350	350	350
AT =	70	70	70	70	70
FAH =	1.00	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

			Infant/Child - Exposure Information				Adult - Exposure Information				Maximum	
							Modeled					
Exposure Year	**Exposure Duration (years)**	**Age**	**DPM Conc (ug/m3) Year**	**DPM Conc (ug/m3) Annual**	**Age Sensitivity Factor**	**Infant/Child Cancer Risk (per million)**	**DPM Conc (ug/m3) Year**	**DPM Conc (ug/m3) Annual**	**Age Sensitivity Factor**	**Adult Cancer Risk (per million)**	**Fugitive PM2.5**	**Total PM2.5**
0	0.25	-0.25 - 0*	-	-	10	-	-	-	-	-		
1	1	0 - 1	2019	0.0336	10	5.51	2019	0.0336	1	0.10	0.1594	0.193
2	1	1 - 2	2020	0.0000	10	0.00	2020	0.0000	1	0.00	0.0000	0.000
3	1	2 - 3	2021	0.0287	3	0.82	2021	0.0287	1	0.08	0.0241	0.0529
4	1	3 - 4	2022		3	0.00	2022		1	0.00		
5	1	4 - 5	2023		3	0.00	2023		1	0.00		
6	1	5 - 6	2024		3	0.00	2024		1	0.00		
7	1	6 - 7	2025		3	0.00	2025		1	0.00		
8	1	7 - 8	2026		3	0.00	2026		1	0.00		
9	1	8 - 9	2027		3	0.00	2027		1	0.00		
10	1	9 - 10	2028		3	0.00	2028		1	0.00		
11	1	10 - 11	2029		3	0.00	2029		1	0.00		
12	1	11 - 12	2030		3	0.00	2030		1	0.00		
13	1	12 - 13	2031		3	0.00	2031		1	0.00		
14	1	13 - 14	2032		3	0.00	2032		1	0.00		
15	1	14 - 15	2033		3	0.00	2033		1	0.00		
16	1	15 - 16	2034		3	0.00	2034		1	0.00		
17	1	16-17	2035		1	0.00	2035		1	0.00		
18	1	17-18	2036		1	0.00	2036		1	0.00		
19	1	18-19	2037		1	0.00	2037		1	0.00		
20	1	19-20	2038		1	0.00	2038		1	0.00		
21	1	20-21	2039		1	0.00	2039		1	0.00		
22	1	21-22	2040		1	0.00	2040		1	0.00		
23	1	22-23	2041		1	0.00	2041		1	0.00		
24	1	23-24	2042		1	0.00	2042		1	0.00		
25	1	24-25	2043		1	0.00	2043		1	0.00		
26	1	25-26	2044		1	0.00	2044		1	0.00		
27	1	26-27	2045		1	0.00	2045		1	0.00		
28	1	27-28	2046		1	0.00	2046		1	0.00		
29	1	28-29	2047		1	0.00	2047		1	0.00		
30	1	29-30	2048		1	0.00	2048		1	0.00		
Total Increased Cancer Risk						**6.3**				**0.18**		

* Third trimester of pregnancy

Tamien TOD Residenital Project (Phase 2), San Jose, CA - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at On-site MEI Location- 5.2 meter receptor height

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air ($\mu g/m^3$)
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

	Infant/Child				Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 9**	**2 - 16**	**16 - 30**
Parameter					
ASF =	10	10	3	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00	1.10E+00	1.10E+00
DBR* =	361	1090	631	572	261
A =	1	1	1	1	1
EF =	350	350	350	350	350
AT =	70	70	70	70	70
FAH =	1.00	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

			Infant/Child - Exposure Information			Infant/Child	Adult - Exposure Information			Adult	Maximum	
				DPM Conc (ug/m3)	Age	Cancer		Modeled DPM Conc (ug/m3)	Age	Cancer		
Exposure Year	**Exposure Duration (years)**	**Age**	**Year**	**Annual**	**Sensitivity Factor**	**Risk (per million)**	**Year**	**Annual**	**Sensitivity Factor**	**Risk (per million)**	**Fugitive PM2.5**	**Total PM2.5**
0	0.25	-0.25 - 0*	-	-	10	-	-	-	-	-		
1	1	0 - 1	2021-2022	0.3093	10	50.80	2021-2022	0.3093	1	0.89	0.0994	0.4087
2	1	1 - 2			10	0.00			1	0.00		
3	1	2 - 3			3	0.00			1	0.00		
4	1	3 - 4			3	0.00			1	0.00		
5	1	4 - 5			3	0.00			1	0.00		
6	1	5 - 6			3	0.00			1	0.00		
7	1	6 - 7			3	0.00			1	0.00		
8	1	7 - 8			3	0.00			1	0.00		
9	1	8 - 9			3	0.00			1	0.00		
10	1	9 - 10			3	0.00			1	0.00		
11	1	10 - 11			3	0.00			1	0.00		
12	1	11 - 12			3	0.00			1	0.00		
13	1	12 - 13			3	0.00			1	0.00		
14	1	13 - 14			3	0.00			1	0.00		
15	1	14 - 15			3	0.00			1	0.00		
16	1	15 - 16			3	0.00			1	0.00		
17	1	16-17			1	0.00			1	0.00		
18	1	17-18			1	0.00			1	0.00		
19	1	18-19			1	0.00			1	0.00		
20	1	19-20			1	0.00			1	0.00		
21	1	20-21			1	0.00			1	0.00		
22	1	21-22			1	0.00			1	0.00		
23	1	22-23			1	0.00			1	0.00		
24	1	23-24			1	0.00			1	0.00		
25	1	24-25			1	0.00			1	0.00		
26	1	25-26			1	0.00			1	0.00		
27	1	26-27			1	0.00			1	0.00		
28	1	27-28			1	0.00			1	0.00		
29	1	28-29			1	0.00			1	0.00		
30	1	29-30			1	0.00			1	0.00		
Total Increased Cancer Risk						**50.8**				**0.89**		

* Third trimester of pregnancy

Tamien TOD Residential Project (Phase 2), San Jose, CA - Construction Impacts - With Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at On-Site MEI Location - 5.2 meter receptor height

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air ($\mu g/m^3$)
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

	Infant/Child				Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 9**	**2 - 16**	**16 - 30**
Parameter					
ASF =	10	10	3	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00	1.10E+00	1.10E+00
DBR* =	361	1090	631	572	261
A =	1	1	1	1	1
EF =	350	350	350	350	350
AT =	70	70	70	70	70
FAH =	1.00	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

			Infant/Child - Exposure Information				Adult - Exposure Information				Maximum	
							Modeled					
Exposure Year	**Exposure Duration (years)**	**Age**	**DPM Conc (ug/m3) Year**	**DPM Conc (ug/m3) Annual**	**Age Sensitivity Factor**	**Infant/Child Cancer Risk (per million)**	**DPM Conc (ug/m3) Year**	**DPM Conc (ug/m3) Annual**	**Age Sensitivity Factor**	**Adult Cancer Risk (per million)**	**Fugitive PM2.5**	**Total PM2.5**
0	0.25	-0.25 - 0*	-	-	10	-	-	-	-	-		
1	1	0 - 1	2021-2022	0.0423	10	6.95	2021-2022	0.0423	1	0.12	0.0333	0.0756
2	1	1 - 2			10	0.00			1	0.00		
3	1	2 - 3			3	0.00			1	0.00		
4	1	3 - 4			3	0.00			1	0.00		
5	1	4 - 5			3	0.00			1	0.00		
6	1	5 - 6			3	0.00			1	0.00		
7	1	6 - 7			3	0.00			1	0.00		
8	1	7 - 8			3	0.00			1	0.00		
9	1	8 - 9			3	0.00			1	0.00		
10	1	9 - 10			3	0.00			1	0.00		
11	1	10 - 11			3	0.00			1	0.00		
12	1	11 - 12			3	0.00			1	0.00		
13	1	12 - 13			3	0.00			1	0.00		
14	1	13 - 14			3	0.00			1	0.00		
15	1	14 - 15			3	0.00			1	0.00		
16	1	15 - 16			3	0.00			1	0.00		
17	1	16-17			1	0.00			1	0.00		
18	1	17-18			1	0.00			1	0.00		
19	1	18-19			1	0.00			1	0.00		
20	1	19-20			1	0.00			1	0.00		
21	1	20-21			1	0.00			1	0.00		
22	1	21-22			1	0.00			1	0.00		
23	1	22-23			1	0.00			1	0.00		
24	1	23-24			1	0.00			1	0.00		
25	1	24-25			1	0.00			1	0.00		
26	1	25-26			1	0.00			1	0.00		
27	1	26-27			1	0.00			1	0.00		
28	1	27-28			1	0.00			1	0.00		
29	1	28-29			1	0.00			1	0.00		
30	1	29-30			1	0.00			1	0.00		
Total Increased Cancer Risk						**6.9**				**0.12**		

* Third trimester of pregnancy

Tamien TOD Proposed Child Care Center, San Jose CA - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk Calculations From Construction
Daycare - 1.0 meters - Child Exposure

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air ($\mu g/m^3$)
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

	Infant/Child				Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 9**	**2 - 16**	**16 - 30**
Parameter					
ASF =	10	10	3	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00	1.10E+00	1.10E+00
DBR* =	361	1090	631	572	261
A =	1	1	1	1	1
EF =	350	350	350	350	350
AT =	70	70	70	70	70
FAH =	1.00	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

Exposure Year	Exposure Duration (years)	Child - Exposure Information: DPM Conc (ug/m3) Year	DPM Conc (ug/m3) Annual	Age* Sensitivity Factor	Child Cancer Risk (per million)	Maximum Fugitive PM2.5	Maximum Total PM2.5
1	1	2021	0.0856	3	2.4	0.0319	0.118

* Children assumed to be from 2 to 9 years of age

Tamien TOD Residential Project (Phase 1), San Jose, CA - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Off-Site MEI Location - 1.5 meter receptor height

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air $(\mu g/m^3)$
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

	Infant/Child				Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 9**	**2 - 16**	**16 - 30**
Parameter					
ASF =	10	10	3	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00	1.10E+00	1.10E+00
DBR* =	361	1090	631	572	261
A =	1	1	1	1	1
EF =	350	350	350	350	350
AT =	70	70	70	70	70
FAH =	1.00	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

			Infant/Child - Exposure Information				Adult - Exposure Information					Maximum	
							Modeled						
Exposure Year	Exposure Duration (years)	Age	DPM Conc (ug/m3) Year	DPM Conc (ug/m3) Annual	Age Sensitivity Factor	Infant/Child Cancer Risk (per million)	DPM Conc (ug/m3) Year	DPM Conc (ug/m3) Annual	Age Sensitivity Factor	Adult Cancer Risk (per million)		Fugitive PM2.5	Total PM2.5
0	0.25	-0.25 - 0*	-	-	10	-	-	-	-	-			
1	1	0 - 1	2019-2020	0.2295	10	37.70	2019-2020	0.2295	1	0.66		0.2426	0.4705
2	1	1 - 2			10	0.00			1	0.00			
3	1	2 - 3			3	0.00			1	0.00			
4	1	3 - 4			3	0.00			1	0.00			
5	1	4 - 5			3	0.00			1	0.00			
6	1	5 - 6			3	0.00			1	0.00			
7	1	6 - 7			3	0.00			1	0.00			
8	1	7 - 8			3	0.00			1	0.00			
9	1	8 - 9			3	0.00			1	0.00			
10	1	9 - 10			3	0.00			1	0.00			
11	1	10 - 11			3	0.00			1	0.00			
12	1	11 - 12			3	0.00			1	0.00			
13	1	12 - 13			3	0.00			1	0.00			
14	1	13 - 14			3	0.00			1	0.00			
15	1	14 - 15			3	0.00			1	0.00			
16	1	15 - 16			3	0.00			1	0.00			
17	1	16-17			1	0.00			1	0.00			
18	1	17-18			1	0.00			1	0.00			
19	1	18-19			1	0.00			1	0.00			
20	1	19-20			1	0.00			1	0.00			
21	1	20-21			1	0.00			1	0.00			
22	1	21-22			1	0.00			1	0.00			
23	1	22-23			1	0.00			1	0.00			
24	1	23-24			1	0.00			1	0.00			
25	1	24-25			1	0.00			1	0.00			
26	1	25-26			1	0.00			1	0.00			
27	1	26-27			1	0.00			1	0.00			
28	1	27-28			1	0.00			1	0.00			
29	1	28-29			1	0.00			1	0.00			
30	1	29-30			1	0.00			1	0.00			
Total Increased Cancer Risk						**37.7**				**0.66**			

* Third trimester of pregnancy

Tamien TOD Residential Project (Phase 1), San Jose, CA - Construction Impacts - With Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Off-Site MEI Location - 1.5 meter receptor height

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air ($\mu g/m^3$)
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

	Infant/Child				Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 9**	**2 - 16**	**16 - 30**
Parameter					
ASF =	10	10	3	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00	1.10E+00	1.10E+00
DBR* =	361	1090	631	572	261
A =	1	1	1	1	1
EF =	350	350	350	350	350
AT =	70	70	70	70	70
FAH =	1.00	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

			Infant/Child - Exposure Information			Infant/Child	Adult - Exposure Information			Adult	Maximum	
							Modeled					
Exposure	Exposure		DPM Conc (ug/m3)		Age Sensitivity	Cancer Risk	DPM Conc (ug/m3)		Age Sensitivity	Cancer Risk	Fugitive	Total
Year	Duration (years)	Age	Year	Annual	Factor	(per million)	Year	Annual	Factor	(per million)	PM2.5	PM2.5
0	0.25	-0.25 - 0*	-	-	10	-	-	-	-	-		
1	1	0 - 1	2019-2020	0.0336	10	5.51	2019-2020	0.0336	1	0.10	0.1594	0.193
2	1	1 - 2	0		10	0.00			1	0.00		
3	1	2 - 3			3	0.00			1	0.00		
4	1	3 - 4			3	0.00			1	0.00		
5	1	4 - 5			3	0.00			1	0.00		
6	1	5 - 6			3	0.00			1	0.00		
7	1	6 - 7			3	0.00			1	0.00		
8	1	7 - 8			3	0.00			1	0.00		
9	1	8 - 9			3	0.00			1	0.00		
10	1	9 - 10			3	0.00			1	0.00		
11	1	10 - 11			3	0.00			1	0.00		
12	1	11 - 12			3	0.00			1	0.00		
13	1	12 - 13			3	0.00			1	0.00		
14	1	13 - 14			3	0.00			1	0.00		
15	1	14 - 15			3	0.00			1	0.00		
16	1	15 - 16			3	0.00			1	0.00		
17	1	16-17			1	0.00			1	0.00		
18	1	17-18			1	0.00			1	0.00		
19	1	18-19			1	0.00			1	0.00		
20	1	19-20			1	0.00			1	0.00		
21	1	20-21			1	0.00			1	0.00		
22	1	21-22			1	0.00			1	0.00		
23	1	22-23			1	0.00			1	0.00		
24	1	23-24			1	0.00			1	0.00		
25	1	24-25			1	0.00			1	0.00		
26	1	25-26			1	0.00			1	0.00		
27	1	26-27			1	0.00			1	0.00		
28	1	27-28			1	0.00			1	0.00		
29	1	28-29			1	0.00			1	0.00		
30	1	29-30			1	0.00			1	0.00		
Total Increased Cancer Risk						**5.5**				**0.10**		

* Third trimester of pregnancy

Tamien TOD Residential Project (Phase 1), San Jose, CA - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Off-Site MEI Location - 4.5 meter receptor height

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air $(\mu g/m^3)$
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

	Infant/Child				Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 9**	**2 - 16**	**16 - 30**
Parameter					
ASF =	10	10	3	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00	1.10E+00	1.10E+00
DBR* =	361	1090	631	572	261
A =	1	1	1	1	1
EF =	350	350	350	350	350
AT =	70	70	70	70	70
FAH =	1.00	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

			Infant/Child - Exposure Information				Adult - Exposure Information					Maximum	
						Infant/Child		Modeled		Adult			
Exposure	Exposure Duration		DPM Conc (ug/m3)		Age Sensitivity	Cancer Risk	DPM Conc (ug/m3)		Age Sensitivity	Cancer Risk	Fugitive	Total
Year	(years)	Age	Year	Annual	Factor	(per million)	Year	Annual	Factor	(per million)	PM2.5	PM2.5
0	0.25	-0.25 - 0*	-	-	10	-	-	-	-	-		
1	1	0 - 1	2019-2020	0.2050	10	33.66	2019-2020	0.2050	1	0.59	0.2018	0.4067
2	1	1 - 2			10	0.00			1	0.00		
3	1	2 - 3			3	0.00			1	0.00		
4	1	3 - 4			3	0.00			1	0.00		
5	1	4 - 5			3	0.00			1	0.00		
6	1	5 - 6			3	0.00			1	0.00		
7	1	6 - 7			3	0.00			1	0.00		
8	1	7 - 8			3	0.00			1	0.00		
9	1	8 - 9			3	0.00			1	0.00		
10	1	9 - 10			3	0.00			1	0.00		
11	1	10 - 11			3	0.00			1	0.00		
12	1	11 - 12			3	0.00			1	0.00		
13	1	12 - 13			3	0.00			1	0.00		
14	1	13 - 14			3	0.00			1	0.00		
15	1	14 - 15			3	0.00			1	0.00		
16	1	15 - 16			3	0.00			1	0.00		
17	1	16-17			1	0.00			1	0.00		
18	1	17-18			1	0.00			1	0.00		
19	1	18-19			1	0.00			1	0.00		
20	1	19-20			1	0.00			1	0.00		
21	1	20-21			1	0.00			1	0.00		
22	1	21-22			1	0.00			1	0.00		
23	1	22-23			1	0.00			1	0.00		
24	1	23-24			1	0.00			1	0.00		
25	1	24-25			1	0.00			1	0.00		
26	1	25-26			1	0.00			1	0.00		
27	1	26-27			1	0.00			1	0.00		
28	1	27-28			1	0.00			1	0.00		
29	1	28-29			1	0.00			1	0.00		
30	1	29-30			1	0.00			1	0.00		
Total Increased Cancer Risk						**33.7**				**0.59**		

* Third trimester of pregnancy

Tamien TOD Residential Project (Phase 2), San Jose, CA - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Off-Site MEI Location - 1.5 meter receptor height

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air ($\mu g/m^3$)
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

	Infant/Child				Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 9**	**2 - 16**	**16 - 30**
Parameter					
ASF =	10	10	3	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00	1.10E+00	1.10E+00
DBR* =	361	1090	631	572	261
A =	1	1	1	1	1
EF =	350	350	350	350	350
AT =	70	70	70	70	70
FAH =	1.00	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

			Infant/Child - Exposure Information				Adult - Exposure Information					Maximum	
						Infant/Child		Modeled		Adult			
Exposure	Exposure Duration		DPM Conc (ug/m3)		Age Sensitivity	Cancer Risk	DPM Conc (ug/m3)		Age Sensitivity	Cancer Risk	Fugitive	Total
Year	(years)	Age	Year	Annual	Factor	(per million)	Year	Annual	Factor	(per million)	PM2.5	PM2.5
0	0.25	-0.25 - 0*	-	-	10	-	-	-	-	-		
1	1	0 - 1	2021-2022	0.2101	10	34.50	2021-2022	0.2101	1	0.60	0.0720	0.2821
2	1	1 - 2			10	0.00			1	0.00		
3	1	2 - 3			3	0.00			1	0.00		
4	1	3 - 4			3	0.00			1	0.00		
5	1	4 - 5			3	0.00			1	0.00		
6	1	5 - 6			3	0.00			1	0.00		
7	1	6 - 7			3	0.00			1	0.00		
8	1	7 - 8			3	0.00			1	0.00		
9	1	8 - 9			3	0.00			1	0.00		
10	1	9 - 10			3	0.00			1	0.00		
11	1	10 - 11			3	0.00			1	0.00		
12	1	11 - 12			3	0.00			1	0.00		
13	1	12 - 13			3	0.00			1	0.00		
14	1	13 - 14			3	0.00			1	0.00		
15	1	14 - 15			3	0.00			1	0.00		
16	1	15 - 16			3	0.00			1	0.00		
17	1	16-17			1	0.00			1	0.00		
18	1	17-18			1	0.00			1	0.00		
19	1	18-19			1	0.00			1	0.00		
20	1	19-20			1	0.00			1	0.00		
21	1	20-21			1	0.00			1	0.00		
22	1	21-22			1	0.00			1	0.00		
23	1	22-23			1	0.00			1	0.00		
24	1	23-24			1	0.00			1	0.00		
25	1	24-25			1	0.00			1	0.00		
26	1	25-26			1	0.00			1	0.00		
27	1	26-27			1	0.00			1	0.00		
28	1	27-28			1	0.00			1	0.00		
29	1	28-29			1	0.00			1	0.00		
30	1	29-30			1	0.00			1	0.00		
Total Increased Cancer Risk						**34.5**				**0.60**		

* Third trimester of pregnancy

Tamien TOD Residential Project (Phase 2), San Jose, CA - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Off-Site MEI Location - 4.5 meter receptor height

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air $(\mu g/m^3)$
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

	Infant/Child				Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 9**	**2 - 16**	**16 - 30**
Parameter					
ASF =	10	10	3	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00	1.10E+00	1.10E+00
DBR* =	361	1090	631	572	261
A =	1	1	1	1	1
EF =	350	350	350	350	350
AT =	70	70	70	70	70
FAH =	1.00	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

			Infant/Child - Exposure Information				Adult - Exposure Information					Maximum	
							Modeled						
Exposure	Exposure Duration		DPM Conc (ug/m3)		Age Sensitivity	Infant/Child Cancer Risk	DPM Conc (ug/m3)		Age Sensitivity	Adult Cancer Risk		Fugitive	Total
Year	(years)	Age	Year	Annual	Factor	(per million)	Year	Annual	Factor	(per million)		PM2.5	PM2.5
0	0.25	-0.25 - 0*	-	-	10	-	-	-	-	-			
1	1	0 - 1	2021-2022	0.1891	10	31.06	2021-2022	0.1891	1	0.54		0.0656	0.2546
2	1	1 - 2			10	0.00			1	0.00			
3	1	2 - 3			3	0.00			1	0.00			
4	1	3 - 4			3	0.00			1	0.00			
5	1	4 - 5			3	0.00			1	0.00			
6	1	5 - 6			3	0.00			1	0.00			
7	1	6 - 7			3	0.00			1	0.00			
8	1	7 - 8			3	0.00			1	0.00			
9	1	8 - 9			3	0.00			1	0.00			
10	1	9 - 10			3	0.00			1	0.00			
11	1	10 - 11			3	0.00			1	0.00			
12	1	11 - 12			3	0.00			1	0.00			
13	1	12 - 13			3	0.00			1	0.00			
14	1	13 - 14			3	0.00			1	0.00			
15	1	14 - 15			3	0.00			1	0.00			
16	1	15 - 16			3	0.00			1	0.00			
17	1	16-17			1	0.00			1	0.00			
18	1	17-18			1	0.00			1	0.00			
19	1	18-19			1	0.00			1	0.00			
20	1	19-20			1	0.00			1	0.00			
21	1	20-21			1	0.00			1	0.00			
22	1	21-22			1	0.00			1	0.00			
23	1	22-23			1	0.00			1	0.00			
24	1	23-24			1	0.00			1	0.00			
25	1	24-25			1	0.00			1	0.00			
26	1	25-26			1	0.00			1	0.00			
27	1	26-27			1	0.00			1	0.00			
28	1	27-28			1	0.00			1	0.00			
29	1	28-29			1	0.00			1	0.00			
30	1	29-30			1	0.00			1	0.00			
Total Increased Cancer Risk						**31.1**				**0.54**			

* Third trimester of pregnancy

Tamien TOD Residential Project (Phase 2), San Jose, CA - Construction Impacts - With Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Off-Site MEI Location - 1.5 meter receptor height

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air ($\mu g/m^3$)
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

	Infant/Child				Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 9**	**2 - 16**	**16 - 30**
Parameter					
ASF =	10	10	3	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00	1.10E+00	1.10E+00
DBR* =	361	1090	631	572	261
A =	1	1	1	1	1
EF =	350	350	350	350	350
AT =	70	70	70	70	70
FAH =	1.00	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

			Infant/Child - Exposure Informatio			Infant/Child	Adult - Exposure Information			Adult	Maximum	
			DPM Conc (ug/m3)		Age	Cancer	Modeled DPM Conc (ug/m3)		Age	Cancer		
Exposure Year	**Exposure Duration (years)**	**Age**	**Year**	**Annual**	**Sensitivity Factor**	**Risk (per million)**	**Year**	**Annual**	**Sensitivity Factor**	**Risk (per million)**	**Fugitive PM2.5**	**Total PM2.5**
0	0.25	-0.25 - 0*	-	-	10	-	-	-	-	-		
1	1	0 - 1	2021-2022	0.0287	10	4.72	2021-2022	0.0287	1	0.08	0.0241	0.0529
2	1	1 - 2			10	0.00			1	0.00		
3	1	2 - 3			3	0.00			1	0.00		
4	1	3 - 4			3	0.00			1	0.00		
5	1	4 - 5			3	0.00			1	0.00		
6	1	5 - 6			3	0.00			1	0.00		
7	1	6 - 7			3	0.00			1	0.00		
8	1	7 - 8			3	0.00			1	0.00		
9	1	8 - 9			3	0.00			1	0.00		
10	1	9 - 10			3	0.00			1	0.00		
11	1	10 - 11			3	0.00			1	0.00		
12	1	11 - 12			3	0.00			1	0.00		
13	1	12 - 13			3	0.00			1	0.00		
14	1	13 - 14			3	0.00			1	0.00		
15	1	14 - 15			3	0.00			1	0.00		
16	1	15 - 16			3	0.00			1	0.00		
17	1	16-17			1	0.00			1	0.00		
18	1	17-18			1	0.00			1	0.00		
19	1	18-19			1	0.00			1	0.00		
20	1	19-20			1	0.00			1	0.00		
21	1	20-21			1	0.00			1	0.00		
22	1	21-22			1	0.00			1	0.00		
23	1	22-23			1	0.00			1	0.00		
24	1	23-24			1	0.00			1	0.00		
25	1	24-25			1	0.00			1	0.00		
26	1	25-26			1	0.00			1	0.00		
27	1	26-27			1	0.00			1	0.00		
28	1	27-28			1	0.00			1	0.00		
29	1	28-29			1	0.00			1	0.00		
30	1	29-30			1	0.00			1	0.00		
Total Increased Cancer Risk						**4.7**				**0.08**		

* Third trimester of pregnancy

Tamien TOD Residenital Project (Phase 2), San Jose, CA - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at On-site MEI Location - 8.2 meter receptor height

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air ($\mu g/m^3$)
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

	Infant/Child				Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 9**	**2 - 16**	**16 - 30**
Parameter					
ASF =	10	10	3	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00	1.10E+00	1.10E+00
DBR* =	361	1090	631	572	261
A =	1	1	1	1	1
EF =	350	350	350	350	350
AT =	70	70	70	70	70
FAH =	1.00	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

			Infant/Child - Exposure Information				Adult - Exposure Information				Maximum	
							Modeled					
Exposure	Exposure Duration		DPM Conc (ug/m3)		Age Sensitivity	Infant/Child Cancer Risk	DPM Conc (ug/m3)		Age Sensitivity	Adult Cancer Risk	Fugitive	Total
Year	(years)	Age	Year	Annual	Factor	(per million)	Year	Annual	Factor	(per million)	PM2.5	PM2.5
0	0.25	-0.25 - 0*	-	-	10	-	-	-	-	-		
1	1	0 - 1	2021-2022	0.2354	10	38.67	2021-2022	0.2354	1	0.68	0.0581	0.2935
2	1	1 - 2			10	0.00			1	0.00		
3	1	2 - 3			3	0.00			1	0.00		
4	1	3 - 4			3	0.00			1	0.00		
5	1	4 - 5			3	0.00			1	0.00		
6	1	5 - 6			3	0.00			1	0.00		
7	1	6 - 7			3	0.00			1	0.00		
8	1	7 - 8			3	0.00			1	0.00		
9	1	8 - 9			3	0.00			1	0.00		
10	1	9 - 10			3	0.00			1	0.00		
11	1	10 - 11			3	0.00			1	0.00		
12	1	11 - 12			3	0.00			1	0.00		
13	1	12 - 13			3	0.00			1	0.00		
14	1	13 - 14			3	0.00			1	0.00		
15	1	14 - 15			3	0.00			1	0.00		
16	1	15 - 16			3	0.00			1	0.00		
17	1	16-17			1	0.00			1	0.00		
18	1	17-18			1	0.00			1	0.00		
19	1	18-19			1	0.00			1	0.00		
20	1	19-20			1	0.00			1	0.00		
21	1	20-21			1	0.00			1	0.00		
22	1	21-22			1	0.00			1	0.00		
23	1	22-23			1	0.00			1	0.00		
24	1	23-24			1	0.00			1	0.00		
25	1	24-25			1	0.00			1	0.00		
26	1	25-26			1	0.00			1	0.00		
27	1	26-27			1	0.00			1	0.00		
28	1	27-28			1	0.00			1	0.00		
29	1	28-29			1	0.00			1	0.00		
30	1	29-30			1	0.00			1	0.00		
Total Increased Cancer Risk						**38.7**				**0.68**		

* Third trimester of pregnancy

Attachment 4: Screening Community Risk Calculations

Bay Area Air Quality Management District

Roadway Screening Analysis Calculator

County specific tables containing estimates of risk and hazard impacts from roadways in the Bay Area.

INSTRUCTIONS:

Input the site-specific characteristics of your project by using the drop down menu in the "Search Parameter" box. We recommend that this analysis be used for roadways with 10,000 AADT and above.

• County: Select the County where the project is located. The calculator is only applicable for projects within the nine Bay Area counties.

• Roadway Direction: Select the orientation that best matches the roadway. If the roadway orientation is neither clearly north-south nor east-west, use the highest values predicted from either orientation.

• Side of the Roadway: Identify on which side of the roadway the project is located.

• Distance from Roadway: Enter the distance in feet from the nearest edge of the roadway to the project site. The calculator estimates values for distances greater than 10 feet and less than 1000 feet. For distances greater than 1000 feet, the user can choose to extrapolate values using a distribution curve or apply 1000 feet values for greater distances.

• Annual Average Daily Traffic (ADT): Enter the annual average daily traffic on the roadway. These data may be collected from the city or the county (if the area is unincorporated).

When the user has completed the data entries, the screening level PM2.5 annual average concentration and the cancer risk results will appear in the Results Box on the right. Please note that the roadway tool is not applicable for California State Highways and the District refers the user to the Highway Screening Analysis Tool at: http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Tools-and-Methodology.aspx.

Notes and References listed below the Search Boxes

Search Parameters

County	Santa Clara
Roadway Direction	North-South
Side of the Roadway	East
Distance from Roadway	1000 feet
Annual Average Daily Traffic (ADT)	11,635

Results

Santa Clara County

NORTH-SOUTH DIRECTIONAL ROADWAY

PM2.5 annual average

0.015 ($\mu g/m^3$)

Cancer Risk

0.65 (per million)

Lelong St. (Offsite MEI)

Cumulative plus project volumes from traffic report

Data for Santa Clara County based on meteorological data collected from San Jose Airport in 1997

Adjusted for 2015 OEHHA and EMFAC2014 for 2018

0.44

(per million)

Note that EMFAC2014 predicts DSL PM2.5 aggragate rates in 2018 that are 46% of EMFAC2011 for 2014. TOG gasoline rates are 56% of EMFAC2011 year 2014 rates. This is for light- and medium-duty vehciles traveling at 30 mph for Bay Area

Notes and References:

1. Emissions were developed using EMFAC2011 for fleet mix in 2014 assuming 10,000 AADT and includes impacts from diesel and gasoline vehicle exhaust, brake and tire wear, and resuspended dust.
2. Roadways were modeled using ~~CALINE4~~ Cal3qhcr air dispersion model assuming a source length of one kilometer. Meteorological data used to estimate the screening values are noted at the bottom of the "Results" box.
3. Cancer risks were estimated for 70 year lifetime exposure starting in 2014 that includes sensitivity values for early life exposures and OEHHA toxicity values adopted in 2013.

Bay Area Air Quality Management District

Roadway Screening Analysis Calculator

County specific tables containing estimates of risk and hazard impacts from roadways in the Bay Area.

INSTRUCTIONS:

Input the site-specific characteristics of your project by using the drop down menu in the "Search Parameter" box. We recommend that this analysis be used for roadways with 10,000 AADT and above.

• County: Select the County where the project is located. The calculator is only applicable for projects within the nine Bay Area counties.

• Roadway Direction: Select the orientation that best matches the roadway. If the roadway orientation is neither clearly north-south nor east-west, use the highest values predicted from either orientation.

• Side of the Roadway: Identify on which side of the roadway the project is located.

• Distance from Roadway: Enter the distance in feet from the nearest edge of the roadway to the project site. The calculator estimates values for distances greater than 10 feet and less than 1000 feet. For distances greater than 1000 feet, the user can choose to extrapolate values using a distribution curve or apply 1000 feet values for greater distances.

• Annual Average Daily Traffic (ADT): Enter the annual average daily traffic on the roadway. These data may be collected from the city or the county (if the area is unincorporated).

When the user has completed the data entries, the screening level PM2.5 annual average concentration and the cancer risk results will appear in the Results Box on the right. Please note that the roadway tool is not applicable for California State Highways and the District refers the user to the Highway Screening Analysis Tool at: http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Tools-and-Methodology.aspx.

Notes and References listed below the Search Boxes

Search Parameters

County	Santa Clara
Roadway Direction	North-South
Side of the Roadway	East
Distance from Roadway	780 feet
Annual Average Daily Traffic (ADT)	11,635

Results

Santa Clara County

NORTH-SOUTH DIRECTIONAL ROADWAY

PM2.5 annual average

0.020 ($\mu g/m^3$)

Cancer Risk

0.89 (per million)

Lelong St. (Onsite MEI)

Cumulative plus project volumes from traffic report

Data for Santa Clara County based on meteorological data collected from San Jose Airport in 1997

Adjusted for 2015 OEHHA and EMFAC2014 for 2018

0.61

(per million)

Note that EMFAC2014 predicts DSL PM2.5 aggragate rates in 2018 that are 46% of EMFAC2011 for 2014. TOG gasoline rates are 56% of EMFAC2011 year 2014 rates. This is for light- and medium-duty vehciles traveling at 30 mph for Bay Area

Notes and References:

1. Emissions were developed using EMFAC2011 for fleet mix in 2014 assuming 10,000 AADT and includes impacts from diesel and gasoline vehicle exhaust, brake and tire wear, and resuspended dust.
2. Roadways were modeled using ~~CALINE4~~ Cal3qhcr air dispersion model assuming a source length of one kilometer. Meteorological data used to estimate the screening values are noted at the bottom of the "Results" box.
3. Cancer risks were estimated for 70 year lifetime exposure starting in 2014 that includes sensitivity values for early life exposures and OEHHA toxicity values adopted in 2013.

Bay Area Air Quality Management District

Roadway Screening Analysis Calculator

County specific tables containing estimates of risk and hazard impacts from roadways in the Bay Area.

INSTRUCTIONS:

Input the site-specific characteristics of your project by using the drop down menu in the "Search Parameter" box. We recommend that this analysis be used for roadways with 10,000 AADT and above.

• County: Select the County where the project is located. The calculator is only applicable for projects within the nine Bay Area counties.

• Roadway Direction: Select the orientation that best matches the roadway. If the roadway orientation is neither clearly north-south nor east-west, use the highest values predicted from either orientation.

• Side of the Roadway: Identify on which side of the roadway the project is located.

• Distance from Roadway: Enter the distance in feet from the nearest edge of the roadway to the project site. The calculator estimates values for distances greater than 10 feet and less than 1000 feet. For distances greater than 1000 feet, the user can choose to extrapolate values using a distribution curve or apply 1000 feet values for greater distances.

• Annual Average Daily Traffic (ADT): Enter the annual average daily traffic on the roadway. These data may be collected from the city or the county (if the area is unincorporated).

When the user has completed the data entries, the screening level PM2.5 annual average concentration and the cancer risk results will appear in the Results Box on the right. Please note that the roadway tool is not applicable for California State Highways and the District refers the user to the Highway Screening Analysis Tool at: http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Tools-and-Methodology.aspx.

Notes and References listed below the Search Boxes

Search Parameters

County	Santa Clara
Roadway Direction	East-West
Side of the Roadway	North
Distance from Roadway	680 feet
Annual Average Daily Traffic (ADT)	11,810

Results

Santa Clara County

EAST-WEST DIRECTIONAL ROADWAY

PM2.5 annual average

0.022 ($\mu g/m^3$)

Cancer Risk

1.20 (per million)

W. Alma Ave. (Offsite MEI)

Cumulative plus project volumes from traffic report

Data for Santa Clara County based on meteorological data collected from San Jose Airport in 1997

Adjusted for 2015 OEHHA and EMFAC2014 for 2018

0.83

(per million)

Note that EMFAC2014 predicts DSL PM2.5 aggragate rates in 2018 that are 46% of EMFAC2011 for 2014. TOG gasoline rates are 56% of EMFAC2011 year 2014 rates. This is for light- and medium-duty vehciles traveling at 30 mph for Bay Area

Notes and References:

1. Emissions were developed using EMFAC2011 for fleet mix in 2014 assuming 10,000 AADT and includes impacts from diesel and gasoline vehicle exhaust, brake and tire wear, and resuspended dust.
2. Roadways were modeled using ~~CALINE4~~ Cal3qhcr air dispersion model assuming a source length of one kilometer. Meteorological data used to estimate the screening values are noted at the bottom of the "Results" box.
3. Cancer risks were estimated for 70 year lifetime exposure starting in 2014 that includes sensitivity values for early life exposures and OEHHA toxicity values adopted in 2013.

Bay Area Air Quality Management District

Roadway Screening Analysis Calculator

County specific tables containing estimates of risk and hazard impacts from roadways in the Bay Area.

INSTRUCTIONS:

Input the site-specific characteristics of your project by using the drop down menu in the "Search Parameter" box. We recommend that this analysis be used for roadways with 10,000 AADT and above.

• County: Select the County where the project is located. The calculator is only applicable for projects within the nine Bay Area counties.

• Roadway Direction: Select the orientation that best matches the roadway. If the roadway orientation is neither clearly north-south nor east-west, use the highest values predicted from either orientation.

• Side of the Roadway: Identify on which side of the roadway the project is located.

• Distance from Roadway: Enter the distance in feet from the nearest edge of the roadway to the project site. The calculator estimates values for distances greater than 10 feet and less than 1000 feet. For distances greater than 1000 feet, the user can choose to extrapolate values using a distribution curve or apply 1000 feet values for greater distances.

• Annual Average Daily Traffic (ADT): Enter the annual average daily traffic on the roadway. These data may be collected from the city or the county (if the area is unincorporated).

When the user has completed the data entries, the screening level PM2.5 annual average concentration and the cancer risk results will appear in the Results Box on the right. Please note that the roadway tool is not applicable for California State Highways and the District refers the user to the Highway Screening Analysis Tool at: http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Tools-and-Methodology.aspx.

Notes and References listed below the Search Boxes

Search Parameters

County	Santa Clara
Roadway Direction	East-West
Side of the Roadway	North
Distance from Roadway	830 feet
Annual Average Daily Traffic (ADT)	11,810

Results

Santa Clara County

EAST-WEST DIRECTIONAL ROADWAY

PM2.5 annual average

0.019 ($\mu g/m^3$)

Cancer Risk

1.03 (per million)

W. Alma Ave. (Onsite MEI)

Cumulative plus project volumes from traffic report

Data for Santa Clara County based on meteorological data collected from San Jose Airport in 1997

Adjusted for 2015 OEHHA and EMFAC2014 for 2018

0.70

(per million)

Note that EMFAC2014 predicts DSL PM2.5 aggragate rates in 2018 that are 46% of EMFAC2011 for 2014. TOG gasoline rates are 56% of EMFAC2011 year 2014 rates. This is for light- and medium-duty vehciles traveling at 30 mph for Bay Area

Notes and References:

1. Emissions were developed using EMFAC2011 for fleet mix in 2014 assuming 10,000 AADT and includes impacts from diesel and gasoline vehicle exhaust, brake and tire wear, and resuspended dust.
2. Roadways were modeled using ~~CALINE4~~ Cal3qhcr air dispersion model assuming a source length of one kilometer. Meteorological data used to estimate the screening values are noted at the bottom of the "Results" box.
3. Cancer risks were estimated for 70 year lifetime exposure starting in 2014 that includes sensitivity values for early life exposures and OEHHA toxicity values adopted in 2013.

Bay Area Air Quality Management District

Risk & Hazard Stationary Source Inquiry Form

This form is required when users request stationary source data from BAAQMD

This form is to be used with the BAAQMD's Google Earth stationary source screening tables.

Click here for guidance on coducting risk & hazard screening, including roadways & freeways, refer to the District's Risk & Hazard Analysis flow chart.

Click here for District's Recommended Methods for Screening and Modeling Local Risks and Hazards document.

Table A: Requester Contact Information

Date of Request	**10/18/2018**
Contact Name	Mimi McNamara
Affiliation	Illingworth & Rodkin, Inc.
Phone	707-794-0400 x35
Email	mmcnamara@illingworthrodkin.com
Project Name	Tamien TOD
Address	1197 Lick Avenue
City	San Jose
County	CA
Type (residential, commercial, mixed use, industrial, etc.)	Mixed-use
Project Size (# of units or building square feet)	569 units
Comments:	

For Air District assistance, the following steps must be completed:

1. Complete all the contact and project information requested in Table A. Incomplete forms will not be processed. Please include a project site map.

2. Download and install the free program Google Earth, **http://www.google.com/earth/download/ge/,** and then download the county specific Google Earth stationary source application files from the District's website, **http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Tools-and-Methodology.aspx.** The small points on the map represent stationary sources permitted by the District (Map A on right). These permitted sources include diesel back-up generators, gas stations, dry cleaners, boilers, printers, auto spray booths, etc. Click on a point to view the source's Information Table, including the name, location, and preliminary estimated cancer risk, hazard index, and PM2.5 concentration.

3. Find the project site in Google Earth by inputting the site's address in the Google Earth search box.

4. Identify stationary sources within at least a 1000ft radius of project site. Verify that the location of the source on the map matches with the source's address in the Information Table, by using the Google Earth address search box to confirm the source's address location. Please report any mapping errors to the District.

5. List the stationary source information in Table B section only.

6. Note that a small percentage of the stationary sources have Health Risk Screening Assessment (HRSA) data INSTEAD of screening level data. These sources will be noted by an asterisk next to the Plant Name (Map B on right). If HRSA values are presented, these values have already been modeled and cannot be adjusted further.

7. Email this completed form to District staff. District staff will provide the most recent risk, hazard, and PM2.5 data that are available for the source(s). If this information or data are not available, source emissions data will be provided. Staff will respond to inquiries within three weeks.

Note that a public records request received for the same stationary source information will cancel the processing of your SSIF request.

Submit forms, maps, and questions to Areana Flores at 415-749-4616, or aflores@baaqmd.gov

Table B: Google Earth data

Distance from Receptor (feet) or MEI[1]	Facility Name	Address	Plant No.	Cancer Risk[2]	Hazard Risk[2]	$PM_{2.5}$[2]	Source No.[3]	Type of Source[4]	Fuel Code[5]	Status/Comments
On-site	Tamien Place Investors, LLC	1275 Lick Avenue	18009	1.6714222	0.0025	0.00212	S1	Generator		Use Diesel IC Multiplier
650	B & M Auto Body Shop	1035 Pepitone Avenue	23050		0.0001		S1	Spray Booth		
1000	ARCO Facility #05384- Daven Log	545 W Alma Avenue	110806	44.15801	0.2180		S1	Gas Dispensing Facility		Use GDF Multiplier

Footnotes:

1. Maximally exposed individual
2. These Cancer Risk, Hazard Index, and PM2.5 columns represent the values in the Google Earth Plant Information Table.
3. Each plant may have multiple permits and sources.
4. Permitted sources include diesel back-up generators, gas stations, dry cleaners, boilers, printers, auto spray booths, etc.
5. Fuel codes: 98 = diesel, 189 = Natural Gas.
6. If a Health Risk Screening Assessment (HRSA) was completed for the source, the application number will be listed here.
7. The date that the HRSA was completed.
8. Engineer who completed the HRSA. For District purposes only.
9. All HRSA completed before 1/5/2010 need to be multiplied by an age sensitivity factor of 1.7.
10. The HRSA "Chronic Health" number represents the Hazard Index.
11. Further information about common sources:
    a. Sources that only include diesel internal combustion engines can be adjusted using the BAAQMD's Diesel Multiplier worksheet.
    b. The risk from natural gas boilers used for space heating when <25 MM BTU/hr would have an estimated cancer risk of one in a million or less, and a chronic
    c. BAAQMD Reg 11 Rule 16 required that all co-residential (sharing a wall, floor, ceiling or is in the same building as a residential unit) dry cleaners cease use of perc on July 1, 2010. Therefore, there is no cancer risk, hazard or PM2.5 concentrations from co-residential dry cleaning businesses in the BAAQMD.
    d. Non co-residential dry cleaners must phase out use of perc by Jan. 1, 2023. Therefore, the risk from these dry cleaners does not need to be factored in over a 70-year period,
    e. Gas stations can be adjusted using BAAQMD's Gas Station Distance Mulitplier worksheet.
    f. Unless otherwise noted, exempt sources are considered insignificant. See BAAQMD Reg 2 Rule 1 for a list of exempt sources.
    g. This spray booth is considered to be insignificant.

Date last updated:

Bay Area Air Quality Management District

Risk & Hazard Stationary Source Inquiry Form

This form is required when users request stationary source data from BAAQMD

This form is to be used with the BAAQMD's Google Earth stationary source screening tables.

Click here for guidance on coducting risk & hazard screening, including roadways & freeways, refer to the District's Risk & Hazard Analysis flow chart.

Click here for District's Recommended Methods for Screening and Modeling Local Risks and Hazards document.

Table A: Requester Contact Information

Date of Request	**10/18/2018**
Contact Name	Mimi McNamara
Affiliation	Illingworth & Rodkin, Inc.
Phone	707-794-0400 x35
Email	mmcnamara@illingworthrodkin.com
Project Name	Tamien TOD
Address	1197 Lick Avenue
City	San Jose
County	CA
Type (residential, commercial, mixed use, industrial, etc.)	Mixed-use
Project Size (# of units or building square feet)	569 units
Comments:	

For Air District assistance, the following steps must be completed:

1. Complete all the contact and project information requested in Table A. Incomplete forms will not be processed. Please include a project site map.

2. Download and install the free program Google Earth, **http://www.google.com/earth/download/ge/,** and then download the county specific Google Earth stationary source application files from the District's website, **http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Tools-and-Methodology.aspx.** The small points on the map represent stationary sources permitted by the District (Map A on right). These permitted sources include diesel back-up generators, gas stations, dry cleaners, boilers, printers, auto spray booths, etc. Click on a point to view the source's Information Table, including the name, location, and preliminary estimated cancer risk, hazard index, and PM2.5 concentration.

3. Find the project site in Google Earth by inputting the site's address in the Google Earth search box.

4. Identify stationary sources within at least a 1000ft radius of project site. Verify that the location of the source on the map matches with the source's address in the Information Table, by using the Google Earth address search box to confirm the source's address location. Please report any mapping errors to the District.

5. List the stationary source information in Table B section only.

6. Note that a small percentage of the stationary sources have Health Risk Screening Assessment (HRSA) data INSTEAD of screening level data. These sources will be noted by an asterisk next to the Plant Name (Map B on right). If HRSA values are presented, these values have already been modeled and cannot be adjusted further.

7. Email this completed form to District staff. District staff will provide the most recent risk, hazard, and PM2.5 data that are available for the source(s). If this information or data are not available, source emissions data will be provided. Staff will respond to inquiries within three weeks.

Note that a public records request received for the same stationary source information will cancel the processing of your SSIF request.

Submit forms, maps, and questions to Areana Flores at 415-749-4616, or aflores@baaqmd.gov

Table B: Google Earth data

Distance from Receptor (feet) or MEI[1]	Facility Name	Address	Plant No.	Cancer Risk[2]	Hazard Risk[2]	$PM_{2.5}$[2]	Source No.[3]	Type of Source[4]	Fuel Code[5]	Status/Comments	Offsite MEI: Distance Adjustment Multiplier	Offsite MEI: Adjusted Cancer Risk Estimate	Offsite MEI: Adjusted Hazard Risk	Offsite MEI: Adjusted PM2.5	Onsite MEI: Distance from Receptor (feet) or MEI[1]	Onsite MEI: Distance Adjustment Multiplier	Onsite MEI: Adjusted Cancer Risk Estimate	Onsite MEI: Adjusted Hazard Risk	Onsite MEI: Adjusted PM2.5
90	Tamien Place Investors, LLC	1275 Lick Avenue	18009	1.6714222	0.0025	0.00212	S1	Generator		Use Diesel IC Multiplier	0.85	1.42	0.00	0.00	On-site	No adjustment	1.67	0.00	0.00
	B & M Auto Body Shop	1035 Pepitone Avenue	23050		0.0001		S1	Spray Booth			No distance adjustment					No distance adjustment			
1000	ARCO Facility #05384- Daven Loo	545 W Alma Avenue	110806	44.15801	0.2180		S1	Gas Dispensing Facility		Use GDF Multiplier	0.015	0.66	0.003		1000	0.015	0.66	0.003	

Footnotes:
1. Maximally exposed individual
2. These Cancer Risk, Hazard Index, and PM2.5 columns represent the values in the Google Earth Plant Information Table.
3. Each plant may have multiple permits and sources.
4. Permitted sources include diesel back-up generators, gas stations, dry cleaners, boilers, printers, auto spray booths, etc.
5. Fuel codes: 98 = diesel, 189 = Natural Gas.
6. If a Health Risk Screening Assessment (HRSA) was completed for the source, the application number will be listed here.
7. The date that the HRSA was completed.
8. Engineer who completed the HRSA. For District purposes only.
9. All HRSA completed before 1/5/2010 need to be multiplied by an age sensitivity factor of 1.7.
10. The HRSA "Chronic Health" number represents the Hazard Index.
11. Further information about common sources:
    a. Sources that only include diesel internal combustion engines can be adjusted using the BAAQMD's Diesel Multiplier worksheet.
    b. The risk from natural gas boilers used for space heating when <25 MM BTU/hr would have an estimated cancer risk of one in a million or less, and a chronic
    c. BAAQMD Reg 11 Rule 16 required that all co-residential (sharing a wall, floor, ceiling or is in the same building as a residential unit) dry cleaners cease use of perc on July 1, 2010. Therefore, there is no cancer risk, hazard or PM2.5 concentrations from co-residential dry cleaning businesses in the BAAQMD.
    d. Non co-residential dry cleaners must phase out use of perc by Jan. 1, 2023. Therefore, the risk from these dry cleaners does not need to be factored in over a 70-year period,
    e. Gas stations can be adjusted using BAAQMD's Gas Station Distance Mulitplier worksheet.
    f. Unless otherwise noted, exempt sources are considered insignificant. See BAAQMD Reg 2 Rule 1 for a list of exempt sources.
    g. This spray booth is considered to be insignificant.

Date last updated:

How to Use the Distance Adjustment Multiplier Tool for Gasoline Dispensing Facilities (GDF)

This distance multiplier tool refines the screening values for cancer risk and chronic hazard index found in the District's Stationary Source Screening Analysis Tool to represent adjusted risk and hazard impacts that can be expected with farther distances from the source of emissions (GDF's).

1. Obtain the GDF cancer risk and/or chronic hazard index from the District's Stationary Source Screening Analysis tool for facilities where the Plant No. is preceded with a 'G'. If the distance to the nearest receptor is less than 20 meters, the distance adjustment multiplier table cannot be used and an air dispersion modeling analysis using site-specific information is needed to refine the cancer risk and/or chronic hazard index estimate.

2. Determine the shortest distance from the GDF to the nearest receptor.

3. In the table below, enter the cancer risk and/or chronic hazard index found in step 1 for the GDF in the row which aligns with the shortest distance from each GDF to the nearest receptor (found in step 2). If the shortest distance to the receptor falls between two distance values, select the multiplier corresponding to the smaller distance. For distances beyond 300 meters, use the multiplier 0.015. The resulting product is the adjusted cancer risk in a million or the adjusted chronic hazard index for the GDF.

Note: These distance adjustment multipliers may be used only for the screening level health risk values indicated in the District's Stationary Source Screening Analysis tool for gasoline dispensing facilities. This distance multiplier tool may not be used to adjust values from an HRA if an HRA for the facility was conducted.

Distance meters	Distance feet	Distance adjustment multiplier	Enter Cancer Risk	Adjusted Cancer Risk	Enter Chronic Hazard Index	Adjusted Chronic Hazard Index
20	66	1.000		0		0
25	82	0.728		0		0
30	98	0.559		0		0
35	115	0.445		0		0
40	131	0.365		0		0
45	148	0.305		0		0
50	164	0.260		0		0
55	180	0.225		0		0
60	197	0.197		0		0
65	213	0.174		0		0
70	230	0.155		0		0
75	246	0.139		0		0
80	262	0.126		0		0
85	279	0.114		0		0
90	295	0.104		0		0
95	312	0.096		0		0
100	328	0.088		0		0
105	344	0.082		0		0
110	361	0.076		0		0
115	377	0.071		0		0
120	394	0.066		0		0
125	410	0.062		0		0
130	426	0.058		0		0
135	443	0.055		0		0
140	459	0.052		0		0
145	476	0.049		0		0
150	492	0.046		0		0
155	508	0.044		0		0
160	525	0.042		0		0
165	541	0.040		0		0
170	558	0.038		0		0
175	574	0.036		0		0
180	590	0.034		0		0
185	607	0.033		0		0
190	623	0.031		0		0
195	640	0.030		0		0
200	656	0.029		0		0
205	672	0.028		0		0
210	689	0.027		0		0
215	705	0.026		0		0
220	722	0.025		0		0
225	738	0.024		0		0
230	754	0.023		0		0
235	771	0.022		0		0
240	787	0.022		0		0
245	804	0.021		0		0
250	820	0.020		0		0
255	836	0.020		0		0
260	853	0.019		0		0
265	869	0.018		0		0
270	886	0.018		0		0
275	902	0.017		0		0
280	918	0.017		0		0
285	935	0.016		0		0
290	951	0.016		0		0
295	968	0.015		0		0
300	984	0.015		0		0

How to Use the Distance Adjustment Multiplier Tool for Diesel Internal Combustion (IC) Engines

This distance multiplier tool refines the screening values for cancer risk and PM2.5 concentrations found in the District's Stationary Source Screening Analysis Tool for permitted facilities which contain only diesel IC engines, to represent adjusted risk and hazard impacts that can be expected with farther distances from the source of emissions.

1. Obtain the facility diesel IC engine(s) cancer risk and/or PM2.5 concentration from the District's Stationary Source Screening Analysis tool only for facilities where the source is listed as "generator." If the distance to the nearest receptor is less than 25 meters, the distance adjustment multiplier table cannot be used and an air dispersion modeling analysis using site-specific information is needed to refine the cancer risk, chronic hazard index or PM2.5 estimates.

2. Determine the shortest distance from each diesel IC engine to the nearest receptor. Select the shortest distance to receptor found.

3. In the table below, enter the cancer risk and/or PM2.5 concentration found in step 1 for the diesel IC engine in the row which aligns with the shortest distance from each diesel IC engine to the nearest receptor (found in step 2). If the shortest distance to the receptor falls between two distance values, select the multiplier corresponding to the smaller distance. For distances beyond 280 meters, use the multiplier 0.04. The resulting product is the adjusted cancer risk in a million or the adjusted PM2.5 concentration for the diesel IC engine

Note: This distance adjustment multiplier may be used only for the screening level health risk values indicated in the District's Stationary Source Screening Analysis tool for diesel IC engines. This distance multiplier tool may not be used to adjust values from an HRA if an HRA for the facility was conducted.

Note: This distance adjustment multiplier may also be used to adjust the screening values for chronic hazard index found in the District's Stationary Source Screening Analysis Tool for facilities with only diesel IC engines.

Distance (meters)	Distance (feet)	Distance Adjustment Multiplier	Enter Cancer Risk Estimate	Adjusted Cancer Risk Estimate	Enter PM2.5 Concentration	Adjusted PM2.5 Concentration
25	82	0.85		0		0
30	98.4	0.73		0		0
35	115	0.64		0		0
40	131	0.58		0		0
50	164	0.5		0		0
60	197	0.41		0		0
70	230	0.31		0		0
80	262	0.28		0		0
90	295	0.25		0		0
100	328	0.22		0		0
110	361	0.18		0		0
120	394	0.16		0		0
130	426	0.15		0		0
140	459	0.14		0		0
150	492	0.12		0		0
160	525	0.1		0		0
180	590	0.09		0		0
200	656	0.08		0		0
220	722	0.07		0		0
240	787	0.06		0		0
260	853	0.05		0		0
280	918	0.04		0		0